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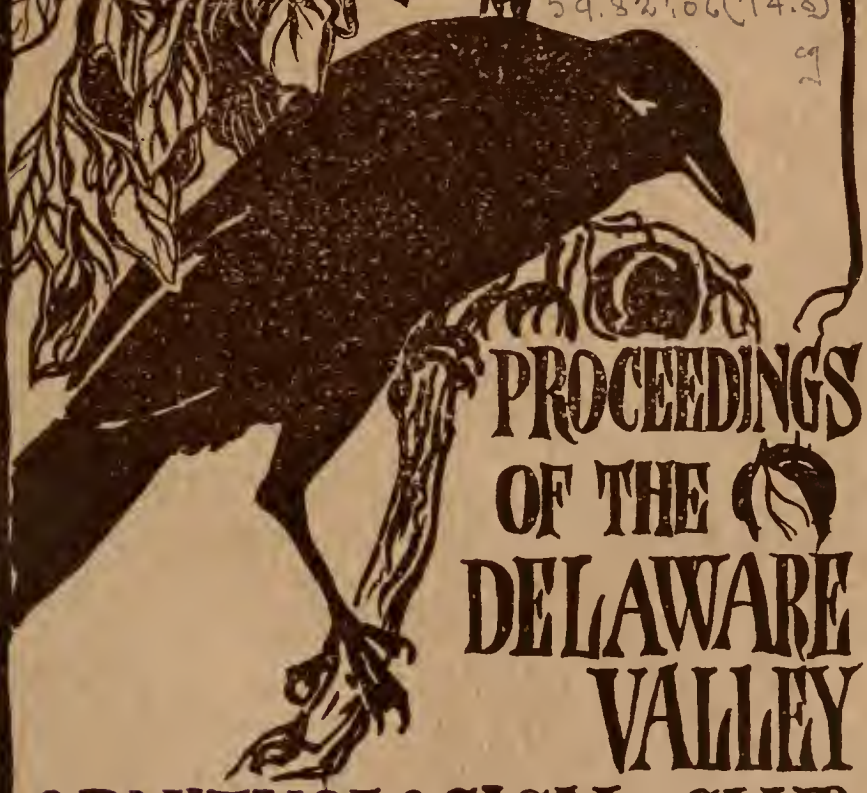

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB OF PHILADELPHIA

1901

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CASSINIA

An Annual Devoted to the Ornithology of Pennsylvania and New Jersey.

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John Cassin

CASSINIA

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

No. V. PHILADELPHIA, PA. 1901

John Cassin

BY WITMER STONE

THE majority of America's early ornithologists were in a greater or less degree identified with eastern Pennsylvania, but none of them is so closely associated with Philadelphia and the Academy of Natural Sciences as John Cassin. Born in the vicinity of Chester, on the Delaware, some ten miles below Philadelphia, September 6, 1813, he removed to the latter city at the age of twenty-one, and engaged in business, eventually becoming the head of the lithographing establishment where many of the plates illustrating his new birds were afterwards produced. He came of a Quaker family, although he was apparently not an active member of this Society. To its influence, however, his interest in natural history may have been due, as the Society of Friends has ever encouraged and fostered such tastes.

Cassin joined the Academy of Natural Sciences of Philadelphia in September, 1842, and at once became deeply interested in the management of the institution, being elected Curator the same year, and Vice-President in 1864, both of which offices he held to the time of his death, while he served as Corresponding Secretary from 1849 to 1852.

He seems to have been a good deal of a politician both in

city affairs and in those of the Academy, and served for a time in the Philadelphia City Councils. His brusque manner and determination made him a number of enemies—temporarily at least; though at heart he was kind, and to his friends always cordial and genial.

As an ornithologist Cassin occupied a rather unique position. Unlike Wilson and Audubon, his great work was done in the museum, with specimens and books, and his knowledge was not limited to the birds of North America, but extended equally to those of all other parts of the world.

In this sort of study Cassin was a pioneer so far as America was concerned, and he was the first of our ornithologists to delve in matters of synonymy and nomenclature which figure so largely in the systematic zoölogy of to-day. Bonaparte was of course an adept in this branch of the science, but most of his work was done after he left America.

Cassin's great pleasure was not in writing up the life-history of a bird, but in ascertaining all that had been published about it and its near relatives, and in preparing a monograph of the group, with full technical descriptions and synonymy—just the sort of work, in fact, that was most distasteful to Audubon! Of one of his forthcoming papers Cassin writes to Baird in the usual familiar strain that he adopted to his close friends: "It is a very astonishing paper, and the way it upsets, reverses and otherwise interferes with everybody's names is a caution; it will make some of them wonder why they did not look into a few of the old books a little sharper!"

Dr. Coues has truly said of Cassin: "He was the only ornithologist this country has ever produced who was as familiar with the birds of the Old World as with those of America." What this meant in those times it is difficult for us to appreciate to-day, when a glance at the British Museum Catalogue will enable us to identify a bird at once or put us in touch with such other works as we need, while the Zoölogical Record keeps us informed of what our contemporaries are doing elsewhere. Cassin had none of these aids, nor were even half the ornithological works of the day accessible to him.

When he began his studies he says himself, writing in July,

1843: "It is hard work, this studying foreign birds—short, technical descriptions, half the time in bad Latin, or at least written by one who could not find Latin for half the colors; and then again nearly all our books are old, when the writers scarcely took into consideration the possibility of other species being discovered similar to the one they so pithily characterize. But I intend to go on as far as I can, and would rather not stop until I know all the birds in the Academy. It will be a work of years, however, solitary and alone as I labor, under disadvantages too—want of leisure and perplexities of business. It would do very well was there no arrangement to be made for insuring the supply of bread and butter—a negotiation which doth most marvellously encroach upon one's time and intentions."

Just how far Cassin would have been able to pursue his studies is somewhat doubtful, had not Dr. Thos. B. Wilson, afterward president of the Academy, and one of its greatest patrons, become interested in developing the department of Ornithology. From 1846–1850 Dr. Wilson, by purchase abroad and at home, brought together a collection of some 25,000 birds, at that time the largest in the world, while he procured for the library practically everything that was to be had bearing upon the science of ornithology. With the exceptional opportunities thus offered, it is not surprising that Cassin made rapid strides and soon became one of the leading systematic ornithologists of the world. His correspondence shows, however, that just at the time that his opportunities were greatest, his business, through previous neglect, demanded his utmost attention, and consequently for months at a time he held aloof from the museum, where the attractions were too great for him. He likewise suffered several attacks of arsenical poisoning from too constant association with the specimens, which also hindered him materially. Later he was fortunately again able to devote most of his time to his favorite pursuit, and before his death, on January 10, 1869, had described no less than 194 new species of birds. Cassin was exceedingly careful in his work; he studied for many years before venturing to publish at all, and afterward only proposed new names where all efforts to

identify his specimens with some established species failed. This caution and the absence of the craze for new species so prevalent of late years accounts for the stability of most of the names for which he is responsible.

Coues says: "He was patient and laborious in the technic of his art, and full of book-learning in the history of his subject; with the result that the Cassinian period [of American Ornithology], largely by the work of Cassin himself, is marked by its bookishness, by its breadth and scope in ornithology at large, and by the first decided change since Audubon in the aspect of the classification and nomenclature of the birds of our country. The Cassinian period marks the culmination of the changes that wrought the fall of the Audubonian sceptre in all that relates to the technicalities of the science, and consequently represents the beginning of a new epoch."

Cassin worked entirely at the Academy, spending his evenings, Sundays and holidays in the Museum when business demanded his attention at other times. During the last years of his active work he is described as occupying the back room of the library in the old Academy building at Broad and Sansom streets, where mounted birds and ornithological books were gathered together in large numbers, and where they remained accumulating dust until his work upon them was completed, guarded meanwhile by an unwritten though well understood law of "hands off." His jealousy of others in the same field who might be about the Academy, and his prior claim upon the privileges of the Wilson collection evidently accounted for the absolute monopoly in matters ornithological at the institution which he maintained throughout his career.

Notwithstanding the fact that it is the technical systematic side that is emphasized in all Cassin's writings, we would be wrong to assume that he was solely a "closet naturalist." The claims of business and the opportunities offered by the Museum undoubtedly deterred him from taking extended trips or even devoting much time to field work in the vicinity of his home. The love of nature was ever present, however, and a large part of his earlier years must evidently have been occupied in gaining that thorough knowledge of the birds of Pennsylvania and

New Jersey which he possessed. He writes to Baird one day in early spring: "You have scarcely an idea of the engrossing character of an active business life in the city, in which I have the misfortune to be merged. I long for the country, and could I make it at all compatible with my interests I should get out of this quickly; being penned up in a city is not what it is cracked up to be, especially in the glorious spring-time. I hope you will shortly have the satisfaction of welcoming your (and let me add my) old friend Merula carolinensis Esq [cat bird], Rev. Pipilo erythrophthalmus [chewink], the amiable family of the Sylvias [warblers], with all the uncles, aunts, cousins and brothers, to which give my respects and the compliments of the season."

To Cassin, however, just as to Audubon, the gun was a most important part of the ornithologist's outfit, and the collector and observer were intimately mingled in his ideas of a field naturalist. To quote his own words: "Bird collecting is the ultimate refinement—the *ne plus ultra* of all the sports of the field. It is attended with all the excitement, and requires all the skill of other shooting, with a much higher degree of theoretical information and consequent gratification in its exercise. . . . Personal activity, coolness, steadiness of hand, quickness of eye and ear will be of service, and some of them indispensable, to successful collecting. The main reliance is, however, on the ear for the detection of birds by their notes. Whether in the tangled forest, the deep recesses of the swamp, on the sea-coast or in the clear woodlands, on the mountain or in the prairie, it advises one of what birds may be there, and we recognize no more exquisite pleasure than to hear a note that we are not acquainted with."

His local researches resulted in the discovery of one bird unknown to Wilson and Audubon, the Philadelphia Vireo, while he also demonstrated the distinctness of our Merganser Duck from the European species, bestowing upon it the name *Americanus*. From the south-west he described a number of new species, secured by various early collectors, but it was from Africa that most of his new birds were obtained. He had always made a specialty of African birds, and formed a con-

siderable private collection, while the large collections made by DuChaillu came later to the Academy and were described by Cassin.

Besides his numerous contributions to the publications of the Academy, Cassin prepared the reports on the ornithological collections made by all of the early government expeditions: The U. S. Exploring Expedition—revised edition, Japan Expedition, and the Gilliss Astronomical Expedition. He also prepared a portion of the volume on Birds in the Pacific Rail Road Series, and published a work on "The Birds of Texas and California."

During the time of his greatest activity Cassin was easily the first ornithologist in America. Of his contemporaries Baird and Lawrence were most closely associated with him, but both did their most important work a little later than Cassin. Baird was ten years his junior, and from the first seems to have consulted him on all ornithological questions, and the relations between them were always most intimate and cordial. Later when the duties of the secretaryship of the Smithsonian Institute occupied a large part of Baird's time, he left to Cassin the description of large numbers of new birds which came into the National Institution.

Audubon had just returned from his Missouri river trip and was making his last contribution to ornithology at the time that Cassin's career began, so that they were hardly contemporaries. They met I believe but once, at the Academy in June, 1845, when Audubon was on a visit to his old friend, Edward Harris, of Moorestown, N. J. Little or no correspondence seems to have passed between them, which is not surprising, since they looked upon ornithology from totally different sides.

With Cassin technic was the all-prominent feature, and there was none of the artistic or poetic temperament which characterized his predecessors. On this account his work appeals but little to the popular school of bird students which has grown up within the last generation, and his name is consequently less familiar. We must, however, remember that the exact knowledge and comprehensive books of to-day have been made possible by the combined work of both kinds of ornithologists. Cassin himself says: "It is by no means desirable to be ex-

clusively a naturalist of the woods, and in fact the greatest degree of accomplishment that can be acquired in this line entitles one to but a very humble rank as a cultivator of Zoölogy. There must be a combination of theoretical and practical acquirements and the gratification of the practical naturalist, or the collector will be exactly in proportion to his scientific or systematic information to be obtained only in the museum and the library. Great is life in the woods, say we, and the greatest of all sports is bird collecting; but to become a scientific ornithologist is quite another business, and a very much more considerable consummation." That John Cassin reached this "consummation" there is no question, and among those who have contributed to the development of the science of ornithology his name must be included in the foremost rank.

Observations on the Summer Birds of Parts of Clinton and Potter Counties, Pa

BY FRANCIS R. COPE, JR

THE chief value of such observations as Mr. Stewardson Brown and myself were able to make during our recent trip through certain sections of Clinton and Potter Counties, Pennsylvania, June 21–28, 1900, lies largely in the additional data which they may furnish regarding the geographical distribution of the birds of our State during the breeding season, and the reasons for such distribution. In a short paper of mine published in the Proceedings of the Academy of Natural Sciences of Philadelphia for 1898, I tried to show that, while the avifauna of Susquehanna County was doubtless originally composed largely of the Canadian element, it was now gradually changing, the northern birds giving way to species which must be considered typical of the Alleghanian and even of the Carolinian faunas. Furthermore, it seemed to me that this change was largely caused by the cutting away of the original primeval forest and thereby destroying the favorite breeding haunts of many of our northern birds.

Now these conclusions were not new. They were in the main, I think I may fairly say, those already reached by Mr. Stone in his observations regarding the "Summer birds of Harvey's Lake, Luzerne County, Pa." in 1891 (Proc. Acad. of Nat. Sci. Phila., 1891, pp. 431–438), by Dr. Dwight in his study of the "Summer Birds of the Crest of the Pennsylvania Alleghenies," in 1892 (Auk, April, 1892), and by Mr. Baily in his paper on the "Summer Birds of Northern Elk County, Pa.," published during 1896 (Auk, Oct., 1896). And they have been further confirmed by the more recent observations of Mr. Stone and the Messrs. Behr on North Mt., Pa. (See the "Ab-

stract of the Proceedings of the D. V. O. C. of Phila." for 1898 and 1899), and by other observers.

The trip taken last June by Mr. Brown and the writer seems to show that this same change of fauna is by no means confined to the eastern section of the mountains of Pennsylvania. Rather it is going on at just as rapid and alarming a pace farther to the west, on the ridges and plateau-land of Tioga, Potter and Clinton Counties. Wherever, indeed, the original forest is disappearing under axe and fire, especially in those sections where the hemlock and other coniferous trees are being cut away, there just as surely we may also look for the disappearance of most of our boreal birds and plants. A more striking illustration of this dependence of the more northern plants and animals on the original primeval forests could hardly be cited than under the conditions which we found to prevail last summer in certain sections of Potter and Clinton Counties. The immense value of those forests, too, in preserving the water supply of the country and thus helping the farmers of our State to withstand the long and disastrous droughts to which we seem to have been peculiarly subject in recent years, was amply proved. Perhaps also one of the primary causes of those droughts was manifested.

Take, for example, the conditions as we found them prevailing at Tamarack Swamp in the northern part of Clinton County. This swamp was truly like a little oasis in a desert. And why? Simply because, as must be clear to even the casual observer, the dense growth of hemlocks, spruces, balsams and other heavy foliaged forest trees keeps out the hot rays of the summer sun and affords a cool retreat both for birds and plants. As proof of this we have but to look at the character of the bird and plant life existing in the Swamp. Everywhere we find beautiful beds of sphagnum moss, all cool and moist. And everywhere, too, one sees little pools of icy-cold water collected around the roots of the trees, while here and there we come upon more open woodland glades where the sun seems hardly to penetrate on account of the thick foliage of the coniferous trees overhead. It is here that we find such boreal plants as *Waldsteinia fragarioides*, *Coptis trifolia*, *Rubus americanus*,

Clintonia borealis, and others. Here also we find many birds typical of the Canadian fauna, such as Olive-backed Thrush, Brown Creeper, Winter Wren, Olive-sided Flycatcher, Crossbills, and many of the northern forms of Warblers, including the Blackburnian, Magnolia, Canadian, Black-throated Blue, and Black-throated Green.

Now contrast these conditions with those prevailing in certain sections of the Swamp which were ravaged by fire in 1897, or in those parts of the surrounding country from which the original timber has been removed. Instead of the greenness and the cool, refreshing beds of moss, all is parched and dry. Where the fire has been there is no longer any shade to exclude the fierce rays of the sun: no water anywhere; only blackened stumps and logs, and dry, powdery beds of sphagnum. These are conditions under which no life can exist. Hence we find neither plants nor birds, but only a barren waste. Even where the fire has not penetrated, but the original green timber has been supplemented by a second growth of oaks and other purely deciduous trees—as in the country immediately surrounding the Swamp—there too conditions are completely altered. The soil is more dry and parched, and there is the absence of that coolness and freshness so characteristic of the primeval forest of hemlocks and birches. Accordingly, instead of the boreal plants and birds which are so abundant in those portions of Tamarack Swamp still untouched by axe or fire, we find Song Sparrows, Chipping Sparrows, Catbirds, Robins, Goldfinches, Kingbirds, Yellow Warblers, and other species characteristic of a more southern fauna.

The same story might be told of the Kettle Creek Valley region in Potter County. Here the transition from one fauna and flora to another is even more striking. The first seven miles of the road leading up this valley from Cross Forks to Oleona are marked by an entire absence of the original green timber. For several miles back from the road, the hills, with few exceptions, are absolutely stripped of woodland. Everything is dry and barren, and except along the creek bed the land is practically unfit for cultivation. Here and there, also, one notices the traces of a recent forest fire. Not soon shall I

forget our walk up the first seven miles of that valley! We left Cross Forks about 9 o'clock in the morning, and making due allowance for an hour and a half's rest in the shade of a farm house, while we refreshed our weary bodies with a good lunch of milk and pie, it took us till 2 o'clock to reach the edge of the forest land. And during those four odd hours the heat was terrific, the dust was fearful and the shade was nil. Indeed, if it had not been for two or three little roadside springs —remains of the original primeval forest, and the cooling conditions which it always brings with it—we would hardly have had the heart or courage to continue. Scarcely a bird was to be heard or seen. But suddenly, when some three miles south of Oleona we struck the edge of the green timber, all this was changed. The scenery now became wild and beautiful. For the most part the hills rise steeply on either side of the creek, but here and there the valley widens and the road takes us past green meadows and a group of neat little farm buildings. Back across the hills for miles stretches the unbroken primeval forest. Here everything at once became cool and green again. Moreover, hardly had we entered the woodland before we heard the cheery little song of the Snowbird, and a beautiful little nest with four eggs was found in the bank along the road-side. This species, as well as most of the northern warblers which we had observed at Tamarack Swamp, continued to increase in numbers, until, in the four miles of timber-land between Oleona and New Bergen, they became very common. At Oleona, rather to our surprise, we again heard a whippoorwill. It was not, however, until we had passed this little village, which, by the way, consists of a small country tavern and two houses, and was named after the famous Ole Bull who settled in the County about 1852—that we met with perhaps the most interesting of our discoveries in the bird line. This was the Mourning Warbler, which proved to be a common species along the roadside and up the mountain divides all the way between Oleona and New Bergen. In this magnificent stretch of woodland we also observed Rose-breasted Grosbeaks and a single Water Thrush, both species not heretofore noted. Winter Wrens were also occasionally heard. On the other hand, Olive-backed

Thrushes, which were so abundant at Tamarack, became scarce, while Wood Thrushes and Wilson's became rather more abundant. We looked carefully for Hermit Thrushes, but not a single one was heard or seen. Neither were any Brown Creepers met with. In the latter case, however, their presence might easily have escaped our notice, as in no instance did we have time to push back into the forest more than a mile from the road.

Enough has been said, I think, to show pretty clearly the close relationship between the geographical distribution of the summer birds belonging to the Canadian fauna and the original primeval forests which once covered the mountains of Pennsylvania. Where those forests still exist in large tracts, as, for example, they did a few years ago on North Mountain, there we find a very strong, if not a predominating, tinge of the Canadian fauna. On the other hand, where they have been entirely destroyed or broken up into isolated patches, those birds which may be regarded as typical of the Alleghanian fauna are in the majority. In the latter case, even where the altitude is above 1,200 ft., certain Carolinian species are beginning to find their way north. Such at least is the only good explanation which we can offer for the presence in recent years of the Chat in a mountain region where it was never before known. [See below.]

In the case of the forest regions of Potter and Clinton counties, with which the present paper deals, I am inclined to think that the fauna is rapidly changing from Canadian to Alleghanian, with a tinge of the Carolinian. To be sure, most of the birds noted at Tamarack Swamp must be regarded as belonging to the former (*i. e.*, Canadian), but there the whole environment is peculiarly suited to their habits. In the southern part—indeed, throughout the whole of Potter county—we find an interesting transition going on. The large bodies of uncut timber which still exist in the Upper Kettle Creek Valley can no longer be regarded as typical of the conditions prevailing throughout the entire county; rather, they are exceptions to the general rule. As such their fauna naturally contains a large percentage of northern species, yet it is already becoming more southern in its character. What will be the fate of many of

our northern warblers and thrushes, which up to the present time seem to have been unable to adapt themselves to their rapidly changing environment, is an interesting question. It would certainly seem that, if the beautiful forests of our State continue to perish at the present alarming rate, their fate as summer residents in Pennsylvania is doomed.

The following list includes only those species which were actually observed by us either in Potter or Clinton counties. In the case of the more rare and interesting species the exact locality and date has been given; in all others the birds may be regarded as having occurred throughout the entire region visited.

List of Birds Observed During a Trip to Clinton and Potter Counties, Pa., June 21–28, 1900.

1. *Ardea herodias.* Great Blue Heron.—A single bird was seen, June 25, on Kettle Creek, just south of Oleona, Potter Co.

2. *Ardea virescens.* Green Heron.—Several scattered individuals were noted in the Valley of the Little Kettle Creek, Potter Co.

3. *Philohela minor.* American Woodcock.—Reported to be common in Tamarack Swamp, where the conditions certainly seemed admirably suited to its habits. Only a single individual, however, was observed by us, on June 24.

4. *Actitis macularia.* Spotted Sandpiper.—Not common, although a few were noted along all the large streams.

5. *Bonasa umbellus.* Ruffed Grouse.—Undoubtedly this bird was common throughout all sections where the primeval forest yet remained uncut. It was reported by residents to be abundant in certain sections of Clinton County, and also in the forest region around Oleona in Potter County. Only a single individual was noted by us in the deep woodland along the upper Kettle Creek Valley.

6. *Zenaidura macroura.* Mourning Dove.—Rather curiously, my notes bear no record of a single dove.

7. *Accipiter velox.* Sharp-shinned Hawk.—Seen only once in the Kettle Creek Valley, near Oleona.

8. *Accipiter cooperi.* Cooper's Hawk.—Met with twice, once

at Tamarack Swamp on June 23, and again in the Kettle Creek Valley on June 25.

9. *Buteo borealis.* Red-tailed Hawk.—A single individual was observed on June 23, in the depths of Tamarack Swamp.

10. *Megascops asio.* Screech Owl.—Heard frequently during the evening in and around Tamarack Swamp.

Mr. Campbell, at whose farm house we stayed on the edge of the Swamp, informed us that there were several different species of owls resident there. He mentioned especially the Great-horned Owl, with which he seemed to be perfectly familiar.

11. *Ceryle alcyon.* Belted Kingfisher. Tolerably common along Little Kettle Creek in Potter County.

12. *Dryobates villosus.* Hairy Woodpecker.—Fully as abundant as the Downy, but confined largely to the deep forest.

13. *Dryobates pubescens medianus.* Downy Woodpecker.—Common everywhere, both in the deep woods and in the open country.

Ceophloeus pileatus abieticola and *Sphyrapicus varius* were not observed either at Tamarack Swamp or in Potter County, and if they do occur as breeders must be confined largely to the deepest portions of the primeval forests in Stewardson township, into which we did not penetrate.

14. *Colaptes auratus luteus.* Flicker.—Common everywhere.

15. *Antrostomus vociferus.* Whip-poor-will.—This species seemed to be not uncommon, several being heard around Tamarack Swamp every evening. Also observed at Oleona on the evening of June 25, where it seemed to be rather out of place amidst the primeval forest. Doubtless, however, just as at North Mountain (Stone), and other localities in the northern part of Pennsylvania, this species has only become common since lumbering began.

16. *Chordeiles virginianus.* Nighthawk.—Noted only twice, on June 23 and 24, at Tamarack Swamp.

17. *Chaetura pelagica.* Chimney Swift.—Common throughout the open country.

18. *Trochilus colubris.* Ruby-throated Hummingbird.—Common.

19. *Tyrannus tyrannus.* Kingbird.—Noted in the open country, especially between New Bergen and Germania, Potter county.

20. *Myiarchus crinitus.* Crested Flycatcher.—Rare. Only one or two seen around farm buildings.

21. *Sayornis phoebe.* Phoebe.—Observed only in the more open and settled portions of the country traversed.

22. *Contopus virens.* Wood Pewee.—Abundant, particularly in the deep woodland, where it was the most characteristic Flycatcher.

23. *Contopus borealis.* Olive-sided Flycatcher.—A Flycatcher thought to be this species was observed June 23 at Tamarack Swamp, perched on the dead top of a tall hemlock. Unfortunately I failed to get within gun-shot, but as far as Mr. Brown and I could observe through the opera glass, we felt certain of the identity. It was certainly a Flycatcher, and not one of the common species.

24. *Empidonax minimus.* Least Flycatcher.—Very common along the roadsides, about houses, and in the open clearings, where it seemed to be one of the characteristic birds.

25. *Otocoris alpestris praticola.* Prairie Horned Lark.—An adult male was shot in the open country between New Bergen and Germania, Potter Co., June 27, while another was observed the same day in an upland meadow near Germania. As further evidence of the increasing abundance of this bird in the eastern part of the country, it may be of interest to note here the occurrence of another pair at Dimock, Susquehanna Co., on July 4, 1900. This makes the second record for the county, the first being a bird observed near Dimock, July 6, 1896.

26. *Cyanocitta cristata.* Blue Jay.—Tolerably common.

27. *Corvus americanus.* American Crow.—Common everywhere.

28. *Dolichonyx oryzivorus.* Bobolink.—Not a single individual was observed during our entire trip, though one would expect to find it in the high upland meadows around Germania, Potter Co., where the elevation is about 1900 feet.

29. *Agelaius phœniceus.* Red-winged Blackbird.—Several pairs, evidently breeding, were observed in some cleared meadows along the lower Kettle Creek Valley. These and another pair near New Bergen were the only ones noted during the trip.

30. *Sturnella magna.* Meadow Lark.—Rather common in the cleared land.

31. *Icterus galbula.* Baltimore Oriole.—Rare. One or two pairs noted about houses.*

32. *Carpodacus purpureus.* Purple Finch.—Rather rare. Observed several times in Tamarack Swamp, but only once in Potter Co. This last record was in the forest region between Oleona and New Bergen, June 26. Several also at Galeton, June 22.

33. *Astragalinus tristis.* American Goldfinch.—Rather common in the open country.

34. *Poœcetes gramineus.* Vesper Sparrow.—Common in the open pasture-land around Germania.

35. *Ammodramus sandwichensis savanna.* Savanna Sparrow.—A few noted near Tamarack Swamp, and at Germania and Galeton, in Potter Co.; but the bird was not common.

36. *Spizella socialis.* Chipping Sparrow.—A few were observed at Galeton and Germania, in Potter county, and near Tamarack Swamp in Clinton county.

37. *Spizella pusilla.* Field Sparrow.—Tolerably common in clearings and over-grown pastures.

38. *Junco hyemalis.* Junco.—Found only where large tracts of the original primeval forest remain uncut, as along Little Kettle Creek between Oleana and New Bergen, Potter Co. Here it was abundant, although not noted at Tamarack Swamp or in the more open country, except a few scattered pairs near Germania. It was most interesting to see how closely this species was limited by the timber line. Not a single bird was noted until we entered the upper part of the Kettle Creek Valley, near Oleana. Here, however, they suddenly became common, increasing in abundance with the forest and decreasing again as we emerged from the green timber at New Bergen. Not that the birds were found in the dense woodland. On the contrary, they seemed rather to prefer the roadsides in the midst of the forest region; but the species was at no time observed in the really open country.

* No grackles of any kind were observed during the trip.

39. *Melospiza melodia.* Song Sparrow.—Unusually abundant everywhere.

40. *Melospiza georgiana.* Swamp Sparrow.—Rare. A single bird observed singing in a clearing on the outskirts of Tamarack Swamp, June 23.

41. *Pipilo erythrophthalmus.* Towhee.—Common in the scrubby timber land, especially on the road between Cross Forks and Tamarack Swamp, in the northern part of Clinton county.

42. *Zamelodia ludoviciana.* Rose-breasted Grosbeak.—Not observed at Tamarack Swamp, but found to be quite common in the forest region between Oleana and New Bergen, Potter county.

43. *Cyanospiza cyanea.* Indigo Bird.—Not observed, except in the more open country around Germania.

44. *Piranga erythromelas.* Scarlet Tanager.—Very common, especially in the forest region along the Kettle Creek Valley, but observed also at Tamarck Swamp and at Galeton.

45. *Petrochelidon lunifrons.* Cliff Swallow.—Decidedly the most abundant of the Swallows, being noted not only in the farming country, but also in the more recent clearings wherever there happened to be a few buildings.

46. *Hirundo erythrogastra.* Barn Swallow.—Not common. Several pairs were breeding in Mr. Campbell's barn on the edge of Tamarack Swamp, and scattered pairs were also found at various localities in the more open portions of the country.

47. *Ampelis cedrorum.* Cedar Bird.—Common throughout.

48. *Vireo olivaceus.* Red-eyed Vireo.—Abundant everywhere.

49. *Vireo flavifrons.* Yellow-throated Vireo.—Several birds were heard at Tamarack Swamp, and it was again noted in the deep woods near Oleona on June 26.

50. *Vireo solitarius.* Blue-headed Vireo.—At Tamarack Swamp this species was fully as common as the Red-eyed, but in Potter county it did not seem to be nearly so plentiful, though it was several times noted near Oleona.

51. *Mniotilta varia.* Black and White Warbler.—In Clinton county it was seen only on the outskirts of Tamarack Swamp, but in Potter county it was tolerably common in the Upper Kettle Creek Valley.

52. *Compsothlypis americana usneæ.* Parula Warbler.—Common at Tamarack Swamp, but less plentiful in Potter county, where it was seen several times at Galeton and sparingly in the Kettle Creek region.

53. *Dendroica æstiva.* Yellow Warbler.—Rare. Seen only occasionally in the open country.

54. *Dendroica cærulescens.* Black-throated Blue Warbler.—Very abundant, both at Tamarack and in Potter county whereever the hemlocks remained uncut. Perhaps the most abundant Warbler in the forests around Oleona.

55. *Dendroica maculosa.* Magnolia Warbler.—This species was even more abundant at Tamarack Swamp than the preceding. Indeed in those portions of the Swamp where the hemlock predominated among the coniferous trees, it might almost be said to swarm, many adult birds with food in their bills being observed.

56. *Dendroica pensylvanica.* Chestnut-sided Warbler.—Not found in Tamarack Swamp or in the forest region of the Kettle Creek Valley, but observed at Galeton, and wherever there was second growth timber.

57. *Dendroica blackburniæ.* Blackburnian Warbler—Abundant, both at Tamarack and around Oleona, but always, like the other northern Warblers, confined to the primeval forest.

58. *Dendroica virens.* Black-throated Green Warbler.—Not so plentiful as *D. cærulescens, maculosa* or *blackburniæ*, but still tolerably common in the deep woodland.

59. *Seiurus aurocapillus.* Oven-bird.—Unusually abundant, both at Tamarack Swamp and along Little Kettle Creek.

60. *Seiurus noveboracensis.* Water Thrush. A single bird with nest and four eggs was found near Oleona, June 26. The nest was beautifully situated among the roots of a large beech tree on the banks of what, in spring, must be a beautiful little mountain torrent, and although it was not collected, I feel no doubt of the identity. Indeed this whole locality was admirably suited to the habits of this bird, and doubtless a more thorough search would have revealed it as not an uncommon breeder.

61. *Geothlypis philadelphia.* Mourning Warbler.—Not ob-

served at Tamarack Swamp, but one of the characteristic birds of the primeval forest region between Oleona and New Bergen. Here it was very common and evidently had young. A brood of three young birds, hardly able to fly, was found along the same beautiful little mountain divide where the Water Thrush was observed, but such a diligent search as the swarms of "black-flies" would permit, failed to reveal the nest. As a rule, however, this species seemed to be more abundant in the underbrush bordering the well-traveled road between Oleona and New Bergen than a few hundred yards back in the midst of the primeval forest.

62. *Geothlypis trichas.* Maryland Yellow-throat.—Very common everywhere, both in the clearings and in the deep woodland.

63. *Icteria virens.* Yellow-breasted Chat.—The unmistakable notes of this bird were plainly heard on a partially cleared hillside near the town of Galeton, Potter county, on June 22, 1900. They seemed hardly in keeping with the mountainous surroundings, and yet after all it is entirely natural that this species, which is generally regarded as typical of the Carolinian fauna, should gradually find its way northward, as the topography of the country is rapidly changed by the removal of the original forest—evidence of the very close connection between the fauna and flora of a locality, rather than between the fauna and mere latitude. It may be of interest to note the occurrence of this species in recent years during the breeding season at Harvey's Lake, June, 1891 (Stone); at Lopez, North Mountain, June 18, 1898 (Stone), and finally at Dimock, Susquehanna county, June 28, 1900. In the last case the birds remained in the same locality all summer, and undoubtedly bred there, as they probably did also at Harvey's Lake and at North Mountain. Furthermore, in all these instances, while the Chats were confined to open clearings, one had but to go a few hundred feet to where the primeval forest, with its more or less boreal flora, still remained unent, in order to find most of the typical northern Warblers. A clearer example of the strong influence of environment on our bird life could hardly be found.

64. *Wilsonia canadensis.* Canadian Warbler.—Of all the warblers noted during our trip, I am inclined to think that this

one was most abundant at Tamarack. It was not only found in the more open portions of the swamp, but in those parts where the rhododendron and the black spruce grew the thickest it seemed to outnumber all other birds. Noted also throughout the forest regions of Potter county.

65. *Galeoscoptes carolinensis.* Catbird.—Not common, and found only in the open country.

66. *Harporhynchus rufus.* Brown Thrasher.—Rare. Seen only once in the farming country around Germania, Potter Co.

67. *Troglodytes ædon.* House Wren.—Common, both about houses and in clearings on the outskirts of the forest region.

68. *Anorthura hiemalis.* Winter Wren.—This species was tolerably common in the densest portions of Tamarack swamp, and in certain localities along the Kettle Creek Valley, where it was also confined to the deep woods. Not met with elsewhere.

69. *Certhia familiaris americana.* Brown Creeper.—Very rare. A single pair noted by Mr. Brown on June 23 in the depths of Tamarack swamp is our only record for this trip.

70. *Sitta carolinensis.* White-breasted Nuthatch.—Common throughout.

S. canadensis was not observed anywhere, although I see no reason why it and such a species as the Golden-crowned Kinglet should not be found in a locality like Tamarack Swamp.

71. *Parus atricapillus* Black-capped Chickadee.—Very abundant; its soft whistle, so characteristic of the breeding season, being heard everywhere.

72. *Hylocichla mustelina.* Wood Thrush.—Only tolerably common at Tamarack swamp, but in the forests along the Kettle Creek Valley it was the characteristic thrush. Several nests with eggs were found.

73. *Hylocichla fuscescens.* Wilson's Thrush.—This thrush seemed to be rare in Tamarack Swamp, but became more plentiful around Oleona, in Potter Co.

74. *Hylocichla ustulata swainsonii.* Olive-backed Thrush.—Far and away the most abundant of the thrush family in Tamarack Swamp, where, indeed, it seemed to be one of the characteristic birds. Its characteristic song could be heard all day long up till eight o'clock in the evening. The bird was shy and very

hard to approach, and as the song was new, both to Mr. Brown and myself, we were at first in some doubt as to the identity of the bird. On the afternoon of June 23, however, while in the depths of the swamp, among a dense tangle of rhododendrons and spruces, one of these birds unconsciously lit almost by my side and immediately began singing. Of course I had an admirable chance to observe it, and at once felt no doubt about its being an Olive-backed Thrush. Later, we had a fine chance to hear both this species and the Wilson's near Oleona, and the difference between the two songs was very striking.

75. *Hylocichla aonalaschkæ pallasii.* Hermit Thrush.—For some unknown reason this bird was neither seen nor heard during our entire trip. Why it should have been absent where both the Olive-back and the Wilson's were common, certainly seems strange. Yet in this connection it may be of interest to state that the Hermit Thrush was absent this summer (1900) in Susquehanna Co. from localities where I have never failed to find at least three or four pairs breeding in previous years. In fact, during the whole of June and July I heard but one Hermit Thrush near Dimock. Has any one else noted the scarcity of this bird during the past breeding season, and if so how can it be accounted for? Is it not possible that it, like other representatives of the Canadian fauna, is being slowly driven away by those very changes in environment caused by the ravages of axe and fire, which in turn are attracting such southern types as the Chat?

76. *Merula migratoria.* Robin.—Found about cleared ground.

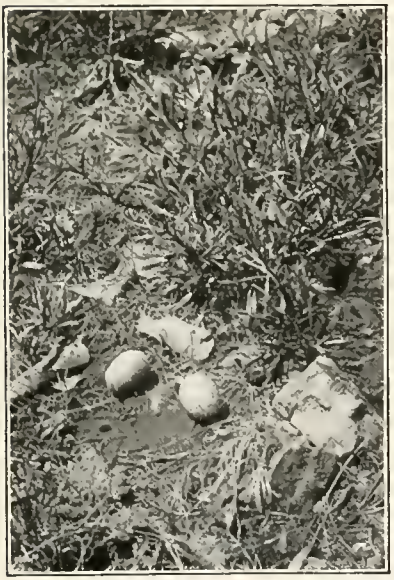
Photographing a Nighthawk's Nest and Young (Chordeiles virginianus)

BY WILLIAM L. BAILY

While crossing a barren field at Paoli, Pa., on June 3, 1900, where the serpentine rock thrusts through the soil, I unexpectedly flushed a Nighthawk about ten feet in front of me, exposing two gray-spotted eggs, laid on the bare, stony ground, scantily dotted with sickly tufts of grass, where there was little soil from which to draw nourishment. This was an ideal spot for a Nighthawk's nest, on a gentle slope not far from an old worm fence, inclosing a thick, low wood bordering on Crum Creek, just below its main source.

The bird fluttered noiselessly but a few yards, when she dropped down, spreading her wings on the ground. I could not get my camera ready in time to take her picture before she flew onto the top rail of the neighboring fence, where again she led me further away just as I was about to snap the shutter. Returning to the eggs, which I had some difficulty in relocating, I noticed they were placed lengthwise side by side, about an inch apart, as usual. When the Nighthawk spreads over them her breast bone, probably touches the ground between them, and one egg is held against the fluffy side of each breast by the thickly-feathered wings.

Six days later, accompanied by Mr. Serrill, who was anxious to see a pair of nighthawk's eggs, the spot was revisited, and as the bird again left the nest, much as she had done before, two little balls of gray down which had but an hour or two before taken the place of the eggs were revealed. The shells had already been removed, and the little birds were in exactly the same position as were the eggs, about one inch apart, but looking in opposite directions. After watching the single par-



NIGHTHAWK (CHORDEILES VIRGINIANUS).

EGGS AND YOUNG.

PHOTOGRAPHED, JUNE, 1901, BY WM. L. BAILY.

ent bird through our glasses with considerable interest, a picture was taken of the young in their natural position and then one in Mr. Serrill's hand. We found their eyes open, just a squint, and their legs quite strong enough to enable them to walk, which they did when we placed them back on the ground. Though apparently but an hour or two old, they were probably off to shelter not many hours later.

A Walk to the Paoli Pine-Barrens

BY WILLIAM J. SERRILL

One day last summer, the 9th of June, 1900, Wm. L. Baily and I paid a visit to the so-called Paoli Barrens. We started from Paoli, and enjoyed one of the finest walks of the season.

If you look upon a geological map of Chester and Delaware counties, you will notice it is pretty liberally spotted with green blotches, looking for all the world as if the map-maker had attempted to print in the names of the townships with a bad pen, which had splattered the ink all over the page. These blots represent areas of serpentine. The farmer whose land extends within the limits of one of these green spots is not envied by his neighbors, as the soil is sterile and barren, as different as may be from the fine farming and grazing acres of Chester county.

One of the largest of these serpentine tracts extends from a point about a mile and a half southwest of Paoli station, in a southwesterly direction, across the townships of Willistown and East Goshen, Chester county. This strip of land is half a mile to a mile wide, and about five miles long. The eastern end of this strip is the part of the Barrens included in our visit.

The country at this point is comparatively flat, forming part of that table land which is known to geologists as South Valley Hill, to the north of which is the majestic sweep of the Chester Valley, while on the south the high ground breaks away laterally into the valleys of those streams which, rising on the table land in Chester county, flow mainly through Delaware county, forming its chief glory, and making it one of the most charming regions in the State. These streams are Cobbs, Darby, Crum, Ridley, and Chester Creeks.

Flowing through a delightfully fertile and rural land, they

have cut out tortuous beds, with steep wooded sides, separated by rounded interlocking hills.

Crum Creek is the particular stream which has its rise in the pine-barren region, and my companion and I drank from two spring-houses which can vie with each other in gentle rivalry for the honor of being the only original source of this lovely stream.

Crum Creek begins in this wild barren region, and it seems, more than its sister streams, to carry a trace of this wild origin throughout its course. Always its slopes seem a little steeper, its glens and woodlands a little wilder, and its ripples a little louder and merrier, than any of the others; the rarest plants grow upon its hillsides—I have found the yellow cypripedium and the round-leaved violet only there—and the birds seem more abundant and of sweeter voice within the shelter of its valleys. And it was a pleasant surprise, when the map was consulted on my return from our walk, to find that we had been at the headwaters of my favorite stream.

Now to describe our walk. Almost as we left the station, a Baltimore Oriole sang in a large maple, but we could not see the nest. After a brisk walk for about a mile, we left the road, and approached a spring house. As Baily was scooping the water, I had my glasses fixed on two or more Kildeer Plovers which ran over the field. I became so interested in their antics—swift runs with sudden squats behind the clods of the field—that I had to be reminded that we had a considerable round to make, and could not afford to spend all afternoon at the spring house. So I regretfully relinquished the Plovers, and after climbing a couple of fences, and approaching the woods, was well repaid. For here, out in the open, we came upon the Nighthawk, with young, on the nest, about which you have heard.

Baily had been here the week before our visit, and had been lucky enough to run across this nest, with two eggs. He had noted its position carefully, and when we were within about fifteen feet of where he thought it was, he spoke of it, and we tip-toed slowly, straining our eyes in an endeavor to see the bird before she flew. But so inconspicuous was she, that neither succeeded, for suddenly she was on the wing, but

alighted again, almost at our feet, with her wings spread, a truly beautiful sight. Baily began to prepare his camera, but she flew again, alighting on the top rail of a fence, a few yards away, sitting lengthwise on the rail. She made several other short flights and finally disappeared, without allowing us to secure her picture.

When we turned from the mother bird, we approached the spot from which she had risen, but the little birds were so inconspicuous, that they were found with difficulty. You have seen their pictures, and I will not describe them. These Night-hawks were quite *the* event of the excursion.

We did not, as I recollect, see or hear many birds in the pine woods. On the ground we found an egg of the oven bird, which had somehow been displaced from the nest. We took a circular course, entering the wood at the north, and emerging at the south-east, and on our way passed through several open glades; the ground covered with stony shale, interspersed with a few thin weeds, the whole exactly similar in character to such places on Pocono Mountain, or in the pine barrens of New Jersey. The pine tree that is characteristic of this region is the Pitch Pine (*Pinus rigida*), and it is abundant.

Upon leaving the woods, we came upon a sort of pasture field or waste land, dotted with clumps of white thorn, alder, and black-berry bushes. A brook divided the field from the woods. Just the place for birds, and they were here in abundance. One of the most beautiful and touching sights was a Wood Thrush, within ten feet of us, sitting on her nest, and gazing at us with unblinking eyes. We passed by with reverent steps. While I was holding back some branches to enable Baily to photograph a nest of young Catbirds, the cries of the parents brought around us a great variety of birds—so many that I felt tempted to drop the branches and devote all my attention to them. There were the Cardinal, the Towhee, the Brown Thrasher, the White-eyed Vireo, the Kentucky Warbler, the Blue-winged Warbler, the Yellow-billed Cuckoo. We were led to the nest of the White-eye by seeing the old bird leave the bush with a piece of excrement. As long as we stayed at the place, we saw birds, and I have not doubt that an indefinite stay would have added indefinitely to the list.

We turned away with regret. Our course led us along an old race bank, past a ruined mill, in a stone arch of which we saw a Phoebe's nest, and along the edge of a fine pond. This little lake is much larger than the ordinary dam or mill pond, and is a great addition to the attractions of this wild region.

The afternoon was now wearing away, so we started on a brisk pace for the station, crossing several farms, beyond the range of the serpentine, and reached our train in good time. We saw in all forty-five species of birds, and can recommend to all bird lovers a visit to the Paoli Pine Barrens.

The Yellow-winged Sparrow (Ammodramus savannarum passerinus) in Eastern Pennsylvania

BY SAMUEL WRIGHT

THERE is found a slight streak of sentiment in all lovers of birds, and it is very apt to cause us to fancy some one bird above all others. I believe with most of the bird men with whom I have been acquainted, the American Robin is the species holding this position, for in looking over collections I have found very few skins of this bird, and attribute the lack of specimens to sentiment on the part of the collectors. This spirit is to be commended, and in some ornithologists it covers the entire bird population, but often not until they have formed excellent collections.

Just why I should have singled out the Yellow-winged Sparrow I know not, for as a bird to study in detail it has very few points of interest, and I think, without exception, it has the least individual variation of any common species. Moreover, although I have made a study of it for many years, I have probably found out but little of its habits not already known. I am obliged to say to begin with, that the most interesting point about this bird I have never been able to solve, and that is its requirements for a nesting place.

Very often when you approach some little patch of woods or meadow, you think this is just the place for a Wilson's Thrush or Swamp Sparrow. Such thoughts do not usually occur to the mind in connection with the commoner species, but if they did and you were to pick out suitable places for the occurrence of the Yellow-wing, you would meet with many more disappointments than realizations.

For many years I have noted the places where I have found them, and where they were lacking, and have endeavored to work out some solution as to their non-appearance in certain localities, but have never reached any satisfactory conclusion.

At Perkiomenville, situated on the Perkiomen Creek about six miles from the Schuylkill, a careful search on three successive years, in July, failed to reveal the bird; while at a point similarly located on the French Creek the same distance from the river, there were several colonies. It is not strictly correct to speak of these birds being in colonies, but I have never found a single pair breeding in any place that I can recall. The general character of the two localities above referred to were very similar, and nearly all my lists taken at the two places were similar, with the exception of the Scarlet Tanager, which I did not find on the French Creek. If on an ordinary trip the non-appearance of this bird would merely indicate that it had been overlooked; but I was at Perkiomenville in each instance for more than a week, and sought carefully for the bird over a considerable area.

Near Conshohocken, where I have made my most careful investigations, it is only found in two places, one of which is very close to the town; but I have never seen a bird in the town proper. There are five fields in which they alternate as the farmer alternates his crops. The birds of course choosing the one planted in grass. None of these fields are more than two hundred yards from a gun club, and many people are sure to pass through every day, so it seems certain that the birds do not look for quiet. These fields do not present the dry appearance that has been described as the home of this species, although most places where I have found them do. There are in this location usually from four to six pairs nesting, but they never build very close together.

The other location is about a mile from town in a very secluded piece of natural grass land, with a few scattered bushes bordering on a small piece of woods. The birds on being flushed will never fly to the woods. I have often tried to drive them into the woods, but they will only approach to a certain distance, and then make a circuit back again. From a superficial examination, these two localities are as different as they could well be, and although there are many spots near Conshohocken that are apparently exact duplicates of either of those above described, I have never found the birds elsewhere. In one the

ground has never to my knowledge been ploughed up, while the other is ploughed up at least every two years; this fact alone I should think would produce a great difference in the food supply.

I regret to say that I am a very poor entomologist, and consequently cannot give the names of any of the insects found in the stomachs of those individuals that I have examined, but I can say that so far as my observations go the Yellow-wings are almost wholly insectivorous, although in some specimens taken in the early spring I have found a small quantity of seeds.

The Yellow-wing is very uncertain in the time of its arrival in the spring. I have found them as early as the middle of April some years, while in one season they did not arrive until May 10. I have never been able to identify migrating birds, although large quantities must go through both in spring and fall. Early in October I have noticed larger numbers than at any other time, but have attributed it to the young birds which have been raised in the immediate vicinity. The song of the Yellow-wing is peculiar, and no doubt most observers have noticed the ventriloquistic qualities of their rather weak note. On entering a field occupied by the birds, their note at first will sound as if at your feet or a few yards away, while on advancing it sounds so far off you will mistake it for that of another bird. Now if you are desirous of seeing the performer, look for a fence or bush near by, and you will undoubtedly be rewarded, but he will be certainly closer by or perhaps much farther away than you expect, and even after you locate the bird, it is some times difficult to persuade your self that you have the right one; if you watch, however, you can hear his feeble effort as he raises himself slightly on the first two notes, and settles down again as he utters the rambling buzz which is the finale of his peculiar insect-like song.

The fact that these birds so seldem perch on trees has led some usually careful observers to state that they never do, but the fact is for the first few days after they arrive in the spring, probably before mating, they are very apt to perch well up in the trees, sitting however entirely still and not apparently looking for food. I have never observed any in thick foliage.

The love making of these birds is so simple that it is hardly describable. I have watched them many times expecting to see some of the merry chasing that is so universal among the finches. They seem to take such little interest that one is almost disposed to think they are mated when they arrive in this locality. I do not think they are, however, as I have noticed a number of times three birds together, presumably two males and one female acting in a manner which seemed to show that no choice had been made.

The nest is placed directly on the ground and is rather carefully made of fine grass; sometimes I understand lined with hair, although I have never seen hair in any that I have found. The eggs are four or five in number, white spotted with reddish-brown. I am obliged to give this information from other writers as I have never found a nest containing eggs. I have never tried flushing the birds with a rope, which I believe is the up-to-date method of locating nests of the ground-building birds.

I am somewhat inclined to differ with most writers as to the abundance of this bird, for while it is very widely distributed I think it is somewhat localized, and very seldom found in large quantities. Of course my field of investigation is very small, but in the vicinity of Philadelphia and New York I have taken a great many trips, and while I have found them in small quantities almost everywhere, I have never found them anywhere in large numbers.

The diversity of opinion as to the song of this bird among our earlier ornithologists is illustrated in a paragraph in the "History of North American Birds." Dr. Brewer states that he never heard it, that Wilson describes it as a short, interrupted chirp, Nuttall as an agreeable song something like a purple finch, Audubon as an unmusical ditty, and Ridgway as bearing a close resemblance to the note of a grasshopper.

If any of the members are posted sufficiently to give us some well defined rule as to this bird's peculiar distribution, it would add very materially to our knowledge of its life history.

Trespassing of the Rose-breasted Grosbeak (Zamelodia ludoviciana) in the Carolinian Fauna

BY WILLIAM B. EVANS

This handsome bird, well known as a breeder in the mountainous or more northern part of the Eastern States, is rightly regarded as usually transient in the lower Delaware Valley and in adjacent parts of Pennsylvania and New Jersey. In other words, its journey north in spring is generally continued until the Alleghanian or still higher Canadian zone is reached before it settles to nest. Thus in the "Birds of Eastern Pennsylvania and New Jersey," which embodied the observations and records collected up to the time of its publication in 1894, the Rose-breasted Grosbeak in company with the Chestnut-sided Warbler, Least Flycatcher, Wilson's Thrush, and Savanna Sparrow, is spoken of as never occuring except as a migrant in the Carolinian belt (page 6).

However, within the last few years several instances have come under our notice of the nesting of Rose-breasts south of their accustomed range, in localities well within the characteristic Carolinian Fauna. In addition to those already recorded on page 120 of the above work, the following is a summary of well authenticated cases which are offered without an attempt at explanation.

In the Auk for 1897, page 323, J. Harris Reed records a nest found at Beverly, Burlington county, N. J., which at that time was the most southern record for New Jersey.

Early in the 7th mo. of the same year, a nest was discovered by G. H. Moore, at Haddonfield, Camden county, N. J. This was reported to the D. V. O. C. at its meeting held 2d mo. 2, 1899, and the nest and eggs became a part of the Club collection.

While visiting in Bucks county, Penna., during the 6th mo.,

1901, I learned from my friend, F. G. Satterthwaite, that at Fallsington, Pa., Rose-breasts are seen and heard regularly during the summer months. Bucks county is situated in the bend of the Delaware river, opposite Trenton, and these statements are confirmed by Dr. C. C. Abbott, who, writing of conditions on the opposite side of the river, says: "* * * The Rose-breasted Grosbeak comes about April 28th to May 3d to the wooded bluff facing the Delaware river, from *near* Trenton *quite* to Bordentown—a semi-circular sweep of about five miles. I live very nearly half way twixt the two towns. The birds in question are *abundant*, *i. e.*, from twelve to twenty pairs, and very regularly nest. After the brood leaves nest, all practically disappear, but are seen again just before south-bound migration sets in. Numbers vary year and year, and I have known more than the maximum number of pairs mentioned to be nesting in the locality described. Previous to 1882, were not common residents, but since then, a characteristic feature of the season. Mark, that I speak *only* of the locality mentioned in detail."

Yours truly, (signed) Chas. C. Abbott.

After returning from an excursion to the Palisades on the Hudson, where the song and striking scold note of the Rose-breast became better fixed in my memory, while nearing the town of Bridgeboro, Burlington county, N. J., on 6th mo. 24, 1901, I was delighted to hear the rich notes I had learned, and stopping, espied the bird in the very top of a buttonwood tree, his bright colors showing to advantage in the sunlight. Upon four subsequent visits to the same spot, he was missed but once from this tree, but our efforts to locate the nest were unrewarded. On 7th mo. 20, while boating upon a branch of the Rancocas creek, just above Mt. Holly, N. J., I again heard the song of the Rose-breast, but did not attempt to find the author.

Except for the notes contained in the following letter, kindly furnished by J. Harris Reed, describing the nesting habits in this part of its range, this completes the list of "trespass" charges against the Rose-breasted Grosbeak which have come to my notice up to the date of my communication. The letter is as follows: * * * "While on nesting trips in Upper Makefield

township, Bucks Co., Pa., early part of June, '97, '98, '99, I met with quite a number of nests, mostly built in dogwood, viburnum and chestnut, in the second growth of thickets, placed about eight feet above the ground. From two to four eggs are laid. The male is as often found on the nest as the female during incubation, and I have located a number of nests through this fact by the male singing while covering the eggs. The male sings quite a good deal about the nesting grounds, and can be heard from some distance on approaching them. They are hard to flush from the nest, especially when the eggs are heavily incubated. The nest is remarkably well built for a bird with so heavy a bill, and the walls are so thin that the eggs can be readily counted through it from below. They select a thicket very densely grown up, and the nest is often woven about the branches of several bushes interlacing one another, and requires great care in separating the bushes to get at it. One of these nests I donated to the Wagner Institute, 17th and Montgomery Ave., Phila., one to Mr. Voelker and one to Mr. Moon. The latter was with me on one of these trips, as well as Dr. W. E. Hughes." * * *

Nesting of the Mockingbird (Mimus polyglottos) in Eastern Pennsylvania

BY W. E. ROBERTS AND W. E. HANNUM

I.

A PAIR of Mockingbirds were seen by myself on June 17, 1901, in Solebury township, Bucks county, Pa., about my home, two and a half miles west from New Hope, and a mile in a direct line from the Delaware River. I noticed them fly out from an osage hedge that extended past my home. I had never seen any birds there that were marked like these, and upon looking them up in a Warren's "Birds of Pennsylvania," I found that they were Mockingbirds. My brother had seen this pair two days earlier than I, and my father had also seen them flying about the hedge before that. This road by the hedge marks a divide between two creek valleys. It is possible that the birds followed one or the other of the streams and found conditions so to their liking that they stayed to nest. The pair seemed tame, flew about our yard among the pine trees and were undisturbed by the wagons passing by. As I was occupied in the daytime during the birds' stay, I usually had an opportunity to observe them only in the early morning or evening. This accounts for the lack of more detailed information. I do not know when nest building was begun. I thought from the actions of the birds that it must be going on however; so on July 7, at my first opportunity for search, I found the nest about thirty yards from the house on the north side of the low thick hedge. It then had the full complement of four eggs and was about four feet from the ground and probably six inches below the top of the hedge. Sticks lined with horse hair composed the nest. There was no difficulty in discovering its location, for the male himself showed where it was, flying to a par-

ticular place and remaining there just long enough to have given some food to the female and then flying back again to his perch. I cannot say whether he did actually feed his mate or not, but his actions so indicated. Pie-cherries were ripe just at this time on a tree close by and seemed to be their principal food. The male could mimic to perfection the notes of the Killdeer, the Bluebird, and the Blue-jay, and I also noticed the songs of the Whip-poor-will, Catbird, Flicker, Plover, and Robin in his repertoire. I saw the old birds no more after the last week in July, and the young not at all.—*W. E. Roberts.*

II.

A PAIR of Mockingbirds that came under my observation reared two broods of young at Concordville, Delaware County, Pa., during the summer of 1896. They were first reported in the vicinity about May 15, although I did not see them myself until about the first of July. By that time they had constructed a nest similar to that of a Robin, but without the mud and a little smaller. It was situated in a small evergreen by the side of the road about four feet from the ground. The eggs hatched during late cherry time, toward the end of June, and the pits in the nest bear evidence that the birds fed on the cherries of a near by tree. At the time I saw the birds they uttered only the alarm notes, showing none of their remarkable abilities, though I was informed that they sang somewhat like the Thrasher. The pair raised a second brood after the first were on the wing, building this time in an osage hedge close to a road, and some two hundred yards from the site of the first nest. They flew about later with their entire brood, numbering eight birds, four from each nest, and disappeared about the end of August. There could be no mistake in their identity, as they were identified by several persons independently, and carefully compared with the plate and description in Warren's "Birds of Pennsylvania."—*Wm. E. Hannum.*

A Spring Migration Record for 1893–1900

In the "Birds of Eastern Pennsylvania and New Jersey" was published a record of the arrival of fifty common birds at Germantown, Pa., for the years 1885–1892. This record having been discontinued, application was made to the Division of Biological Survey, U. S. Department of Agriculture, for access to the records in its possession. Through the kindness of Dr. C. Hart Merriam, Chief of the Division, permission to copy the records was granted. This was done mainly by Mr. J. A. G. Rehn, and these data are now on file and available to any members of the Club. In order to bring our published record up to date, the observations of Mr. Frank L. Burns, covering the fifty birds treated in the Germantown record, as contained in the Agricultural Department data, are here published. The location being farther inland and on higher ground, the arrivals are probably a day or two later than they would be at Germantown, but they will serve pretty well to indicate the general character of the migration, and seem to constitute the only continuous record that has been kept for these years at any one point in Eastern Pennsylvania.

	1893	1894	1895	1896	1897	1898	1899	1900
Flicker	.....	Apr. 1	Apr. 2	Mar. 30	Mar. 21	Feb. 10	Apr. 6	Mar. 10
Chimney Swift	Apr. 27	Apr. 18	Apr. 24	Apr. 18	Apr. 24	.....	Apr. 24	Apr. 23
Hummingbird	May 12	.....	.....	May 10	May 17	May 14	May 13	May 27
Kingbird	Apr. 8	Apr. 28	Apr. 20	Apr. 29	Apr. 25	May 5	May 2	May 11
Crested Flycatcher	Apr. 24	Apr. 18	Apr. 27	May 3	Apr. 30	May 3	May 6	May 5
Pewee	Apr. 1	.....	Apr. 7	Mar. 26	Mar. 22	Mar. 14	Mar. 22	Mar. 23
Wood Pewee	....	.....	May 15	May 3	May 14	May 21	May 21	May 27
Green-crested Flycatcher	.....	May 8	May 15	May 16	May 22	May 18	May 22	May 26
Red-winged Blackbird	Mar. 13	Mar. 6	Apr. 2	Mar. 7	Mar. 10	Mar. 10	Feb. 28	Mar. 10
Baltimore Oriole	May 7	May 8	.....	Apr. 30	May 10	May 3	May 4	May 4
Purple Grackle	Mar. 8	Mar. 6	Mar. 4	Feb. 24	Mar. 2	Feb. 10	Feb. 28	Mar. 8
Chipping Sparrow	Mar. 26	.....	Apr. 9	Apr. 10	Mar. 23	Mar. 19	Apr. 8	Apr. 6
Field Sparrow	Mar. 26	.....	Apr. 14	Apr. 10	Mar. 23	Mar. 10	Apr. 1	Apr. 5
Snow Bird	Oct. 12	Oct. 5	.....	Oct. 14	Oct. 4	Oct. 15	Nov. 1	Nov. 13
Chewink	Apr. 22	Apr. 13	.....	Apr. 17	Apr. 15	Apr. 17	Apr. 29	Apr. 25
Indigo Bird	May 20	.....	May 3	May 18	May 5	May 14	May 14	May 9
Scarlet Tanager	May 13	May 8	May 12	May 14	May 16	May 11	May 6	May 6
Barn Swallow	Apr. 21	Apr. 16	Apr. 25	Apr. 15	Apr. 16	Apr. 22	Apr. 23	Apr. 23
Red-eyed Vireo	Apr. 21	Apr. 29	May 3	May 5	May 5	May 4	May 7	May
Black and White Warbler	May 6	.....	May 6	May 6	May 13	May 3	Apr. 26	Apr. 17
Parula Warbler	.....	.....	.....	.....	.....	May 18	.....	May 9
Yellow Warbler	.....	May 6						

ARRIVALS AT BERWYN, CHESTER CO., PA.—F. L. BURNS—*Concluded*

	1893	1894	1895	1896	1897	1898	1899	1900
Black-throated Blue Warbler	.....	May 9	.....	May 6	.....	May 18		
Magnolia Warbler	.....	.....	.....	May 13	.....	.....	.....	May 13
Chestnut-sided Warbler	May 6	.....	.....	.....	.....	May 14		
Bay-breasted Warbler	May 20							
Black-poll Warbler	.....	.....	.....	May 16				
Blackburnian Warbler	May 20							
Black-throated Green Warbler	.....	.....	.....	.....	.....	.....	.....	May 13
Yellow Palm Warbler	.....	.....	.....	.....	Apr. 16			
Ovenbird	Apr. 21	.....	May 4	May 3	Apr. 22	May 3	Apr. 26	Apr. 30
Maryland Yellow-throat	Apr. 21	May 9	.....	May 4	.....	May 3	May 7	
Chat	.....	.....	May 15	May 18	.....	May 11	May 7	May 20
Canadian Warbler	.....	.....	.....	May 16	.....	May 18		
Redstart	May 18	.....	.....	May 6	.....	May 14	May 13	
Catbird	Apr. 27	May 6	May 6	May 3	May 3	May 1	Apr. 29	Apr. 29
Brown Thrasher	May 2	May 9	.....	May 9	Apr. 16	Apr. 18	May 1	Apr. 24
House Wren	.....	.....	.....	.....	Apr. 17	Apr. 19	Apr. 24	Apr. 20	Apr. 27
Winter Wren	Oct. 19	Oct. 5	.....	Oct. 17	Sep. 21	.....	Nov. 1	
Brown Creeper	.....	.....	.....	Oct. 28				
Wood Thrush	May 1	May 3	May 4	May 3	May 4	May 7	May 1	May 3
Hermit Thrush	.....	.....	.....	.....	Apr. 16	Apr. 20	.....	Apr. 25
Robin	Feb. 16	Feb. 8	Feb. 17	Mar. 7	Mar. 5	Mar. 8	Mar. 1	Mar. 5
Bluebird	Feb. 16	Feb. 11	Feb. 18	Feb. 27	Feb. 17	Feb. 5	Feb. 28	

The Spring Migration of 1901

It is our desire to record in the future the dates of spring arrivals at as many points as possible in Pennsylvania and New Jersey, and we ask the co-operation of all who are willing to aid. Blanks for keeping the record will be furnished upon application to the Club. For the spring of 1901 we are able to publish five records which are all more or less incomplete. The migration was a peculiar one, as owing to the almost continuous cloudy and rainy weather that prevailed during April and May, the usual well-marked "waves" of warblers were not observed at all at some stations, and the number of migrating birds seemed very much less than usual, doubtless due to a rapid flight after continued hindrance by unfavorable weather. May 10–12 seems to have been the time of the greatest migration.

	Chestnut Hill, W. H. Trotter.*	Swarthmore, W. E. Hannum.	Moorestown, W. B. Evans.	Ardmore, W. L. Baily.	Berwyn, F. L. Burns.	
Canada Goose	.....	.....	.....	.....	Feb. 28	
Yellow-legs	.....	.....	.....	May 6		
Solitary Sandpiper	.....	.....	May 12			
Spotted Sandpiper	.....	.....	Apr. 29	May 12	May 11	May 11 †
Field Plover	May 11					
Killdeer Plover	.....	Apr. 1	.....	May 17	Mar. 18	
Night Heron	.....	.....	Apr. 5			
Green Heron	.....	.....	May 4	.....	.....	May 11 †
Turkey Vulture	.....	.....	.....	Mar. 24	Feb. 25	
Osprey	.....	Apr. 6	Apr. 5	.....	May 15	
Broad-winged Hawk	.....	.....	.....	.....	Mar. 22	
Dove	.....	Apr. 1	.....	.....	Mar. 27	
Yellow-billed Cuckoo	.....	.....	.....	May 12		
Kingfisher	.....	.....	.....	Mar. 17		
Flicker	Mar. 24	.....	.....	Mar. 3	Mar. 12	
Hummingbird	.....	.....	May 12	May 12	May 26	
Chimney Swift	Apr. 29	Apr. 27	Apr. 27	Apr. 28	Apr. 28	Apr. 27 ‡
Nighthawk	.....	.....	.....	May 5		
Kingbird	May 10	.....	May 5	May 12	May 14	
Crested Flycatcher	May 8	May 4	May 6	May 12	May 7	
Pewee	Mar. 22	Mar. 11	.....	Mar. 17	Apr. 8	Mar. 16 ⁂
Wood Pewee	.....	May 14	May 3	May 5	May 14	
Least Flycatcher	May 1	.....	.....	May 5		
Green-crested Flycatcher	.....	.....	.....	May 1	May 14	
Orchard Oriole	May 12	.....	May 4	May 12	May 10	May 11 †
Baltimore Oriole	May 11	.....	May 5	May 12	May 2	May 11 †
Purple Grackle	Mar. 14	Mar. 3	Mar. 3	Mar. 10	Mar. 8	
Rusty Grackle	.....	.....	.....	Mar. 24		

* Absent May 13–28. † Pensauken Creek, N. J. ‡ Clementon, N. J. ⁂ Westtown, Pa.

	Chestnut Hill, W. H. Trotter.	Swarthmore, W. E. Hannum.	Moorestown, W. B. Evans.	Ardmore, W. L. Baily.	Berwyn, F. L. Burns.	
Red-winged Blackbird	Mar. 14	Mar. 11	Mar. 13	Mar. 24	Mar. 11	
Cowbird	Apr. 3	Apr. 11	.....	Mar. 17	Apr. 8	
Bobolink	.....	May 8	May 5	May 12		
Yellow-winged Sparrow	Apr. 28	May 1	Apr. 29	May 12		
Savanna Sparrow	.....	.....	.....	Mar. 17		
Chipping Sparrow	Apr. 13	Apr. 12	Apr. 8	Apr. 9	Mar. 25	
Field Sparrow	Mar. 30	Mar. 21	Mar. 16	.....	Mar. 23	
Vesper Sparrow	Mar. 27	.....	Apr. 8	.....	Apr. 8	
White-crowned Sparrow	.....	.....	.....	May 12		
Swamp Sparrow	.....	.....	May 2	May 3		
Fox Sparrow	.....	.....	.....	Mar. 3	Mar. 9	
Chewink	Apr. 29	.....	Apr. 22	Apr. 27	Apr. 29	
Indigo Bird	.....	May 10	.....	May 20	May 14	
Rose-breasted Grosbeak	May 12	May 11	May 12	May 12	May 12	
Scarlet Tanager	May 12	May 12	May 5	May 12	May 5	
Cedar bird	.....	.....	.....	May 12		
Purple Martin	.....	Apr. 28	Apr. 12	May 5	Apr. 27	
Barn Swallow	Apr. 13	Apr. 16	Apr. 14	Apr. 16	Apr. 26	
Tree Swallow	.....	Apr. 26	Apr. 5			
Bank Swallow	.....	.....	.....	Apr. 27		
Rough-winged Swallow	.....	.....	.....	May 5	Apr. 26	
White-eyed Vireo	.....	May 10	May 8	May 12	May 14	
Yellow-throated Vireo	.....	May 11	May 5	May 5		
Red-eyed Vireo	May 11	May 10	May 3	May 12	May 14	
Warbling Vireo	.....	May 12	.....	.....	May 17	May 10 *
Black and White Warbler	May 1	Apr. 25	Apr. 29	May 5	Apr. 29	
Worm-eating Warbler	.....	.....	.....	.....	May 19	
Parula Warbler	.....	May 12	May 5	May 12		
Blue-winged Warbler	.....	May 10	May 11	May 12	May 7	

*Coatesville, Chester Co., Pa.

	Chestnut Hill, W. H. Trotter.	Swarthmore, W. E. Hannum.	Moorestown, W. B. Evans.	Ardmore, W. L. Baily.	Berwyn, F. L. Burns.	
Nashville Warbler	.....	.....	.....	May 5		
Yellow Palm Warbler	.....	.....	Apr. 27	May 5		
Yellow Warbler	.....	May 5	May 1	May 12		May 11 *
Black-throated Blue Warbler	.....	May 13	.....	May 12		
Black-throated Green Warbler	.....	May 7	May 3	May 12		
Chestnut-sided Warbler	.....	May 15	May 12	May 5		May 11 *
Magnolia Warbler	.....	May 12	May 11	May 12		
Myrtle Warbler	.....	May 2	Apr. 2	May 12		May 11 *
Blackburnian Warbler	.....	.....	May 12	May 5		
Black-poll Warbler	.....	.....	.....	May 15		
Prairie Warbler	.....	.....	.....	May 12		
Yellow-breasted Chat	May 11	May 10	May 7	May 12	May 7	May 11 *
Kentucky Warbler	May 4	May 10	.....	May 12	May 14	
Maryland Yellow-throat	May 11	May 3	Apr. 30	May 12	May 6	May 11 *
Ovenbird	May 4	May 2	May 2	May 4	May 2	
Water Thrush	.....	May 12	Apr. 30	May 12		May 11 *
Wilson's Warbler	.....	.....	.....	May 12		
Canada Warbler	.....	.....	May 14			
Redstart	.....	May 12	May 5	May 12	May 14	May 10 †
House Wren	Apr. 26	May 1	Apr. 22	May 7	Apr. 9	
Brown Thrasher	May 2	Apr. 28	Apr. 22	May 12	Apr. 26	
Catbird	May 10	.....	May 4	May 7	May 7	
Ruby-crowned Kinglet	May 1	.....	.....	May 2		
Olive-backed Thrush	.....	.....	May 1			
Hermit Thrush	.....	.....	May 1			
Wilson's Thrush	May 12	May 11	May 2	May 2		
Wood-Thrush	May 7	.....	May 1	May 5	May 7	
Robin	Mar. 8	Mar. 9	Mar. 4	Mar. 9	Feb. 26	
Bluebird	.....	.....	.....	Mar. 3	Jan. 17	

* Pensauken Creek, N. J. † Coatesville, Chester Co., Pa

Birds that Struck the City Hall Tower During the Migrations of 1901

Mr. Slaughter, electrician at the City Hall, has furnished to Mr. W. L. Baily the following list of birds which were killed by striking against the tower during the year. It comprises eighteen species and, unless otherwise indicated, only one bird was killed on each date given:

Spring Migration.—Chipping Sparrow, May 1 (2); Red-eyed Vireo, May 29; Redstart, May 28; Black-poll Warbler, May 27; Parula Warbler, May 13; Ovenbird, May 29; Maryland Yellow-throat, May 3, May 13 (3), May 23 (2), May 25 (3), May 27. In all seventeen birds.

Fall Migration. — Yellow-bellied Sapsucker, Sept. 20 (2); Wood Pewee, Sept. 17; Indigo Bird, Sept. 30; Chewink, Oct. 7, Oct. 18, Oct. 21; Red-eyed Vireo, Sept. 14, Sept. 16, Sept. 20, Oct. 6, Oct. 16; Parula Warbler, Sept. 16, Sept. 17, Sept. 20 (2); Black-poll Warbler, Sept. 17, Sept. 20; Black-throated Blue Warbler, Sept. 13; Yellow Palm Warbler, Oct. 4, Oct. 5; Myrtle Warbler, Oct. 17; Maryland Yellow-throat, Sept. 4, Sept. 12, Sept. 16, Sept. 17 (2), Sept. 20 (2), Sept. 21; Connecticut Warbler, Sept. 12; Ovenbird, Sept. 12, Sept. 14; Yellow-breasted Chat, Sep. 30; Redstart, Sept. 16; Brown Thrasher, Sept. 12, Sept. 14; Brown Creeper, Oct. 17. In all thirty-eight birds.

Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1901.

January 3, 1901.—Annual Meeting. Twenty-nine members present. The election of officers for the ensuing year resulted as follows:

President—Charles J. Pennock.

Vice-President—William A. Shryock.

Secretary—Henry W. Fowler.

Treasurer—Stewardson Brown.

Dr. Spencer Trotter made a communication on birds observed in Nova Scotia during the summer of 1897.

Mr. Samuel N. Rhoads discussed the "Economic Value of Hawks and Owls."

Christmas-day lists were then read by several members. (See *Bird Lore*, Feb., 1901:)

Mr. G. S. Morris reported a Myrtle Warbler (*Dendroica coronata*) observed at Frankford, Phila., Jan. 2, 1901.

Mr. W. L. Baily exhibited a number of lantern slides of birds from life, after which the club adjourned to a collation.

January 17, 1901.—Eleven members present.

Mr. Witmer Stone addressed the Club on "The Late Dr. Elliott Coues," giving some personal reminiscences and reading extracts from Dr. Coues' works.

Bluebirds (*Sialia sialis*) were reported by Mr. W. L. Baily, from Wynnewood, Pa., Jan. 14; Purple Grackles (*Quiscalus quiscula*) from St. Davids, Pa., Jan. 13, by Mr. I. N. DeHaven. Wm. B. Evans recorded a Barred Owl (*Syrnium nebulosum*) at Moorestown, N. J., Jan. 6, and Mr. Stone exhibited a Black-backed Gull (*Larus marinus*) shot at Stone Harbor, N. J., Jan. 11.

February 7, 1901.—Seventeen members present.

Mr. Stone read a paper entitled "The American Ornithologists' Union of 1840–45." A general discussion followed on the Warblers of the genus Helminthophila.

Mr. Stone recorded the capture of a Yellow Palm Warbler (*Dendroica p. hypochrysea*) near Overbrook, Phila., Jan. 31, 1901. The ground was covered with snow and the bird had approached a house in search of food, where it was attacked and nearly killed by the English Sparrows. Mr. Fowler observed the Myrtle Warbler (*D. coronata*) at Holmesburg Jan. 20, and exhibited a Brunnich's Murre (*Uria lomvia*) obtained at Byberry Jan. 11. Mr. McCadden recorded a Razor-billed Auk (*Alca torda*) found dead at Ocean City, N. J., late in January, and Dr. Trotter stated that Bluebirds had been present all winter at Swarthmore.

Mr. Emlen spoke of having recently seen the White-bellied Nuthatch feeding on the ground, and Mr. DeHaven had also noticed the same rather unusual habit.

February 21, 1901.—Twenty members present.

Messrs. Marcus S. Farr, C. F. Sylvester and Wm. H. Werner were elected Corresponding members.

Mr. Wright read a paper on "The Yellow-winged Sparrow in Eastern Pennsylvania" (see pp. 28–31). Mr. Pennock commented on "Some Chester County Bird Lists."

Mr. Coggins spoke of the apparent occurrence of the Western Savanna Sparrow (*Ammodramus sandw. alaudinus*) in North Carolina in winter (see *Auk*, 1901, p. 397).

Dr. Trotter reported a Bald Eagle at Swarthmore, Pa., Feb. 16, and a Yellow-bellied Sapsucker (*Sphyrapicus varius*) Feb. 21.

Mr. Rehn placed on record the capture of a Kittiwake Gull (*Rissa tridactyla*) at Atlantic City, N. J., in the winter of 1896.

March 7, 1901.—Nineteen members present.

Mr. Fowler resigned from the office of Secretary and Wm. B. Evans was chosen to fill the vacancy. Messrs. W. E. Hannum and L. I. Smith, Jr., were elected Associate members.

Mr. W. J. Serrill read a paper entitled "A Walk to the Paoli Barrens" (see pp. 24–27). Mr. Morris described a recent trip

to Cape Charles, Va. Ring-billed and Herring Gulls, Brant, Black Duck, Golden Eyes, Scoters and Great Blue Herons were the water birds observed. One Ipswich Sparrow and one Mockingbird were noticed. Mr. DeHaven stated that he had secured a Gadwall (*Chaulelasmus streperus*) out of a flock of three at Cape Charles late in February; they were regarded as rare birds in that locality. J. D. Carter reported a Bald Eagle three miles south of West Chester, Pa., Nov. 28, 1899. Messrs. Coggins and Pennock had observed a Hermit Thrush and Red-headed Woodpecker at Kennett, Chester Co., Pa., Feb. 23, and S. N. Rhoads noted the former species at Ancora, N. J., Feb. 28. A specimen of the King Eider (*Somateria spectabilis*), taken Dec. 4, 1900, on the Delaware river near Tinicum, was exhibited by Mr. L. I. Smith, Jr.

March 21, 1901.—Twenty-two members present.

Mr. Samuel Wright was elected an Active member.

Dr. Trotter spoke on the "Distribution of the Red-headed Woodpecker." He had noticed one in February, 1898, at Cheyney, Pa., while Mr. DeHaven observed one throughout the winter of 1899–1900 at Overbrook.

Dr. Prendergast described several visits to the large East Park Reservoir, located near the Schuylkill north of Columbia Ave., Phila. He saw Herring Gulls and Ducks, both on the water and on the dykes separating the several basins, while detachments were frequently seen flying in and coming to rest. The large size of the reservoir and the fence which surrounds it furnish the birds ample protection. On March 8 there were over 200 Ducks and 7 Gulls; March 14, 329 Ducks and 16 Gulls; March 16, over 300 Ducks and 17 Gulls; March 19, 300 Ducks and 10 Gulls (April 12, 72 Ducks and 4 Gulls). The Ducks were mainly Mergansers (*M. americanus*), with a few Golden Eyes (*Clangula c. americana*); the Gulls were both adults and young birds in the dark plumage. Crows were nearly always present mingling with the water birds on the dykes.

Mr. L. I. Smith, Jr., reported Brant March 11 and Canada Geese March 20 on the Delaware at Tinicum.

April 4, 1901.—Twenty members present.

The resignation of Dr. T. H. Montgomery, Jr., was accepted with regret.

Mr. S. N. Rhoads described a winter trip through central New Jersey, north of the pine barrens. In Bear Swamp, Mercer Co., he noticed such Carolinian species as the Cardinal, Carolina Wren and Tufted Titmouse.

Mr. Seiss read an interesting account of two Great Horned Owls (*Bubo virginianus*) which he had kept in captivity. Mr. Fowler reported a flock of Snowflakes (*Passerina nivalis*) on the Delaware marshes near Penrose Ferry Bridge, Phila., during the middle of January. A Loon (*Gavia imber*) was observed at the same time. On Nov. 29, 1900, a specimen of Holboell's Grebe (*Colymbus holboelli*) was shot at the same locality, and on Christmas day, 1900, a Snowy Owl.

Mr. W. L. Baily announced the discovery of a Black Duck's nest at Ocean View, N. J., March 30. It was located in a rather open swamp in a small white-cedar bush, a little above the surface of the water. The bird was flushed on two occasions but had not begun to lay.

Dr. Trotter had observed a Red-headed Woodpecker forcing an acorn into a crevice in a decayed tree trunk in the manner of the California Woodpecker. He also stated that the Swarthmore College collection contained a Saw-whet Owl taken in Fairmount Park, Phila., Oct., 1876.

April 18, 1901.—Twenty-four members present.

Mr. H. E. McCormick was elected an Associate member.

Prof. Benj. Battin made an address on "Recording and Imitating Bird Songs." A paper entitled "Observations on the Summer Birds of parts of Clinton and Potter Counties, Pa.," by Francis R. Cope, Jr., was read by Mr. Brown. (See pp. 8–21.)

Mr. L. I. Smith, Jr., exhibited a hybrid between the Mallard and Black Duck shot on the Delaware river, below Philadelphia, March 13, 1901.

A Louisiana Water Thrush was reported at Swarthmore, Pa., April 18, by Mr. A. B. Way.

Mr. Baily reported a Loggerhead Strike and a Mockingbird at Ocean View, N. J., April 30, 1901.

May 2, 1901.—Nineteen members present.

Dr. Samuel S. Haines was elected an Associate member.

Mr. Stone spoke of the birds of Sullivan and Wyoming counties, Penna., as observed during three successive years, calling particular attention to the effects of lumbering and fire upon the bird life. The region immediately covered by his observations had been virgin forest when first visited, but was now almost entirely cleared and largely swept by fire. Most of the strictly Canadian species had become much scarcer, but curiously enough, the White-throated Sparrow (*Zonotrichia albicollis*) had increased as a breeder.

May 16, 1901.—Twenty-three members present.

A general discussion on the spring migration (see pp. 40–43). Mr. S. N. Rhoads reported a Veery (*Hylocichla fuscescens*) heard singing at Audubon, N. J., during the week. A Golden-winged Warbler (*Helminthophila chrysoptera*) was observed on the Wissahickon, May 12, by A. C. Emlen and another at Swarthmore, Pa., by A. B. Way, on May 7.

Mr. Brown reported the discovery of a Ruffed Grouse's nest at Clementon, N. J., May 11, it contained broken eggs and had been deserted.

I. N. DeHaven reported a Red Phalarope (*Crymophilus fulicarius*) and Horned Grebe (*Colymbus auritus*) shot at Charlestown, Va., April 30.

Dr. Hughes gave an account of "Birds Observed on a Moose Hunt in Northeastern Ontario."

October 3, 1901.—Twenty-six members present.

Mr. Morris stated that previous to 1900 he had never found the Kentucky Warbler (*Geothlypis formosa*) nesting about Olney, although well-known to be common on the other side of Philadelphia. In that year, however, one pair bred near his home, and the present season there were several pairs. On August 28, at Eaglesmere Lake, Pa., he had noted four Black Terns (*Hydrochelidon nigra surinamensis*), a very unusual occurrence so far inland and at such an altitude.

Mr. Stone exhibited a specimen of Hudsonian Godwit (*Limosa*

hæmastica) procured at Anglesea, N. J., August 26, by H. W. Wenzel. Mr. DeHaven commented on the present scarcity of the species on the New Jersey coast, and stated that ten or fifteen years ago they occurred regularly with the Willet, three or four in each flock of the latter.

Mr. Stone spoke of a large flock of Bank Swallows (*Clivicola riparia*) observed on the lower Susquehanna August 8. He estimated by partial count that over 700 were resting on telegraph wires, while twice as many more were roosting in a corn field immediately behind, perching all over the stalks.

Mr. S. N. Rhoads reported that the Chimney Swifts (*Chactura pelagica*) that built last season on the interior of his stable returned and occupied the old nest, but being disturbed they deserted it and built again in an old barn near by, attaching the nest to the boards as in the previous case.

Mr. A. C. Emlen observed a flight of hawks on September 19.

Mr. Voelker reported a Parasitic Jaeger (*Stercorarius parasiticus*) seen at Stone Harbor, N. J., May 27, 1901.

October 17, 1901.—Nineteen members present.

Samuel N. Rhoads and Wm. B. Evans described a trip to the New Jersey Palisades early in June. In the vicinity of Alpine they found the following species which do not breed in the neighborhood of Philadelphia: Veery (*Hylocichla fuscescens*), Black-throated Green Warbler (*Dendroica virens*), Chestnut-sided Warbler (*D. pensylvanica*), Alder Flycatcher (*Empidonax trailli alnorum*). Also the Louisiana Water Thrush (*Seiurus motacilla*), Hooded Warbler (*Wilsonia mitrata*), and such Carolinian species as the Chat (*Icteria virens*), Carolina Wren (*Thryothorus ludovicianus*), Kentucky Warbler (*Geothlypis formosa*), Worm-eating Warbler (*Helmitherus vermivorus*). No Bobolinks (*Dolichonyx oryzivorus*) were to be found.

Mr. Fowler stated that at Ridgewood, N. J., in June, 1900, he had observed Bartramian Sandpipers, Bobolinks and Veeries all evidently breeding.

Mr. Rehn reported the presence of Duck Hawks (*Falco peregrinus anatum*) during June, 1901, at Lehigh Gap, Pa., where they evidently nested on the cliffs.

November 7, 1901.—Twenty-five members present.

Mr. Reynold A. Spaeth was elected an Associate member.

Mr. Brown spoke on some birds observed at Ganoga Lake, Pa., during the past summer. He found the Pileated Woodpecker still present, and at Bear Lake had observed a Raven.

Mr. Pennock read some "Adirondack Notes" and Mr. Stone described some curious cases of distribution in certain tropical ducks.

Mr. Morris stated that on October 27 he had observed quite a number of ducks on Haines' Creek near Medford, N. J., including Merganser, Wood Duck, Black Duck and Mallard; the small size of the stream and distance from the Delaware made the occurrence of particular interest.

November 21, 1901.—Nineteen members present.

Mr. Jas. L. Stanton was elected an Associate member.

Mr. S. N. Rhoads spoke of some birds noticed on a bicycle trip to Salem, N. J., Killdeer, Robins and Purple Grackles were found, the first quite numerous. Fishermen informed him that Greenwich marked the northern range of the Clapper Rail (*Rallus crepitans*) on Delaware Bay in the breeding season, and that the Sora Rail (*Porzana carolina*) wintered there occasionally.

Wm. B. Evans reported the capture of a Golden Eagle near Moorestown, N. J., November 8, 1901.

December 5, 1901.—Twenty-one members present.

Mr. W. E. Roberts was elected an Associate member.

Mr. Hannum read a paper on the "Influence of the Hemlock-covered Ridge on the Fauna of Delaware Co., Pa."

Mr. L. I. Smith, Jr., reported the presence of a flock of Snowflakes on Little Tinicum Island, in the Delaware river, Nov. 7 and 9, 1901, one of which was secured on Nov. 27. He stated that they occurred at this spot nearly every winter at intervals, but he had never seen them on the shores of the river.

Mr. W. G. Smith exhibited a pet Crow, and described its habits and history at length.

Mr. Pennock reported the Yellow-bellied Sapsucker (*Sphyrapicus varius*) and Loggerhead Shrike (*Lanius ludovicianus*) at

Kennet Square, Pa., December 12, and the Vesper Sparrow (*Poœcetes gramineus*) December 4.

December 19, 1901.—Nineteen members present.

Wm. B. Evans read a paper on "Trespassing of the Rose-breasted Grosbeak in the Carolinian Fauna" (see pp. 32–34). A female King Eider Duck (*Somateria spectabilis*) was also exhibited by the speaker, which was shot by E. W. Woolman, on Assacorking Island, Chincoteague Bay, Va., Dec. 5, 1901.

Bird Club Notes

Since its organization in 1890, the Delaware Valley Ornithological Club has published an Abstract of its Proceedings, comprising four pamphlets: I, 1890–91; II, 1892–97; III, 1898–99; IV, 1900. These were intended for distribution among the members and their friends.

With the growth of the interest in local ornithology and the increasing activity of the Club, it seems desirable to issue the more important local papers which are presented at its meetings in full, and to add such observations on migration, etc., as shall make our publication an annual resumè of local ornithology. As it is important for both birds and bird journals to have distinctive names, we have adopted one for our annual which is eminently local and at the same time is a slight tribute to one of America's greatest ornithologists. For the cover design of "Cassinia" we are indebted to our Associate member Mr. Alfred Morton Githens, while the portrait of Cassin is from a photograph presented to the Academy of Natural Sciences by Miss Lucy H. Baird, formerly the property of her father, Prof. Spencer F. Baird.

* * *

During the year the Club has held sixteen regular meetings, with an average attendance of twenty-one. Forty-eight members have been present at one or more meetings.

A program of Saturday field trips was planned for the spring, but was greatly interfered with by the unusually stormy weather.

* * *

On December 7, 1900, there was organized in Philadelphia the Spencer F. Baird Ornithological Club, composed entirely of women, most of them Associates of the A. O. U. The Club has

held regular meetings during the past year—except the summer months—at which many original papers were presented. Addresses have also been delivered before the Club, on special invitation, by Dr. Charles C. Abbott, Mr. H. C. Oberholser, Mr. A. Radclyffe Dugmore and Mr. Witmer Stone.

The officers for the ensuing year are: President, Miss Elizabeth Wilson Fisher; Secretary and Treasurer, Miss Mary Parker Nicholson; Corresponding Secretary, Mrs. Edw. Robins.

* * *

The Pennsylvania Audubon Society has been doing excellent work in the interest of bird protection during the year, especially on educational lines. A free traveling library on birds and nature was established, and ten sets of ten books each are now circulating among the schools of the State which have not access to large public libraries. The annual meeting was held at the Academy of Natural Sciences as usual, and Mr. W. L. Baily made an address on "The Gulls and Terns of the Maine Coast," illustrated by lantern slides. The officers for 1902 are: President, Witmer Stone; Secretary, Mrs. Edward Robins; Treasurer, William L. Baily.

* * *

At the annual congress of the A. O. U., held in New York City, November, 1901, five Delaware Valley Club men were elected to the new class of Members intermediate between the Fellows and Associates, *viz.*, Charles J. Pennock, Samuel N. Rhoads, William L. Baily, Dr. Spencer Trotter and W. E. Clyde Todd, as well as Frank L. Burns, of Berwyn, who was formerly a member of our Club. L. I. Smith, Jr., and J. A. G. Rehn were elected Associates. Mr. Baily was re-appointed a member of the Committee on Bird Protection and Mr. Stone, who resigned the chairmanship of this committee, was appointed a member of the Committee on Classification and Nomenclature.

OFFICERS AND MEMBERS

OF THE

Delaware Valley Ornithological Club.

1902.

CHARLES J. PENNOCK, *President.*
WILLIAM A. SHRYOCK, *Vice-President.*
WILLIAM B. EVANS, *Secretary*, 252 S. Front St., Phila.
STEWARDSON BROWN, *Treasurer*, 20 E. Penn St., Germantown.

ACTIVE MEMBERS.

WILLIAM L. BAILY, Ardmore, Pa. ..... Founder.
STEWARDSON BROWN, 20 E. Penn St., Germantown, Phila. 1891*
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I. NORRIS DEHAVEN, Ardmore, Pa. 1891
ARTHUR C. EMLEN, Awbury, Germantown, Phila. 1897
WILLIAM B. EVANS, Moorestown, N. J. 1898
WILLIAM E. HUGHES, M. D., 3945 Chestnut St., W. Phila. 1891
GEORGE SPENCER MORRIS, Olney, Phila. ..... Founder.
CHARLES J. PENNOCK, Kennett Square, Pa. 1895
CHARLES J. RHOADS, Bryn Mawr, Pa. 1890
SAMUEL N. RHOADS, Audubon, N. J. ..... Founder.
WILLIAM A. SHRYOCK, 21 N. Seventh St., Phila. 1891
WITMER STONE, Academy Nat. Sciences, Phila. ..... Founder.
SAMUEL WRIGHT, Conshohocken, Pa. 1892

* Date indicates year of election to Club.

HONORARY MEMBER.

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NATHAN KITE, Moylan, Delaware Co., Pa. 1898
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J. R. MOON, 836 Broadway, Camden, N. J. 1897
ROBERT T. MOORE, Haddonfield, N. J. 1897
SAMUEL C. PALMER, Swarthmore Prep. School, Swarthmore, Pa. 1899
JAMES F. PRENDERGAST, M. D., 3833 Spring Garden St., W. Phila. ...1899
J. HARRIS REED, Aldan, Delaware Co., Pa. .....Founder.
JOHN REESE, Riverton, N. J. 1894
JAMES A. G. REHN, 1918 N. Twenty-first St., Phila. 1899
WILLIAM R. REINICK, Wagner Institute, Seventeenth and Montgomery Ave., Phila. 1900
WILLIAM E. ROBERTS, Swarthmore College, Delaware Co., Pa. 1901
ANTHONY ROBINSON, 409 Chestnut St., Phila. 1898
W. E. ROTZELL, M. D., Narberth, Montgomery Co., Pa. 1891
WILLIAM B. SCHEUING, 3024 W. York St., Phila. 1893
C. FEW SEISS, 1338 Spring Garden St., Phila. 1892
WILLIAM J. SERRILL, Haverford, Pa. 1891

EDWIN SHEPPARD, Academy Nat. Sciences, Phila. 1891
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WALTER GORDON SMITH, 5870 Drexel Road, W. Phila. 1898
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WILLIAM H. TROTTER, Chestnut Hill, Phila. 1899
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CHARLES A. VOELKER, Adamsford, Delaware Co., Pa. ..... Founder.
HENRY WARRINGTON, 1700 Mt. Vernon St., Phila. 1896
CHARLES S. WELLES, Elwyn, Delaware Co., Pa. 1900
CORNELIUS WEYGANDT, 79 Upsal St., Germantown, Phila. 1891
ALBERT WHITAKER, Cedar Grove, Frankford, Phila. 1896
MARK L. C. WILDE, Merchantville, N. J. 1892

CORRESPONDING MEMBERS.

CHARLES H. BAKER, Grassmere, Orange Co., Fla. 1900
THOMAS J. BEANS, Moorestown, N. J. 1895
HERMAN BEHR, Lopez, Sullivan Co., Pa. 1897
OTTO BEHR, Lopez, Sullivan Co., Pa. 1897
W. H. BULLER, Marietta, Lancaster Co., Pa. 1895
WALTER D. BUSH, Wilmington, Del. 1898
FRANK B. EASTMAN, Wilmington, Del. 1898
MARCUS S. FARR, Princeton, N. J. 1901
HENRY W. FOWLER, Leland Stanford Univ., Cal. 1894
HARRY L. GRAHAM, Redlands, Cal. 1897
ALLEN H. GROSH, York, York Co., Pa. 1900
HENRY HALES, Ridgewood, N. J. 1895
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THOMAS H. JACKSON, West Chester, Pa. 1895
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AUGUST KOCH, Williamsport, Pa. 1895
SAMUEL B. LADD, West Chester, Pa. 1895
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WILLIAM PATTERSON, Salem, N. J. 1895
HOWARD Y. PENNELL, Downingtown, Pa. 1894
A. H. PHILLIPS, Princeton, N. J. 1895
M. W. RAUB, M. D., Lancaster, Pa. 1895
H. JUSTIN RODDY, State Normal School, Millersville, Lanc. Co., Pa. 1895
HUGH E. STONE, Coatesville, Pa. 1895

H. A. Surface, State College, Pa. 1900
C. F. Sylvester, Princeton, N. J. 1901
W. E. Clyde Todd, Carnegie Museum, Pittsburg, Pa. 1895
William H. Werner, Atlantic City, N. J. 1901
William L. Whitaker, Joplin, Mo. 1893
Robert T. Young, Boulder, Colo. 1892

DECEASED MEMBERS.

Died.

J. Farnum Brown, Active member ..... May, 1894
John W. Detwiller, M. D., Corresponding member 1898
Gilbert H. Moore, Associate member ..... May, 1899
William W. Smith, Associate member ..... July 3, 1892

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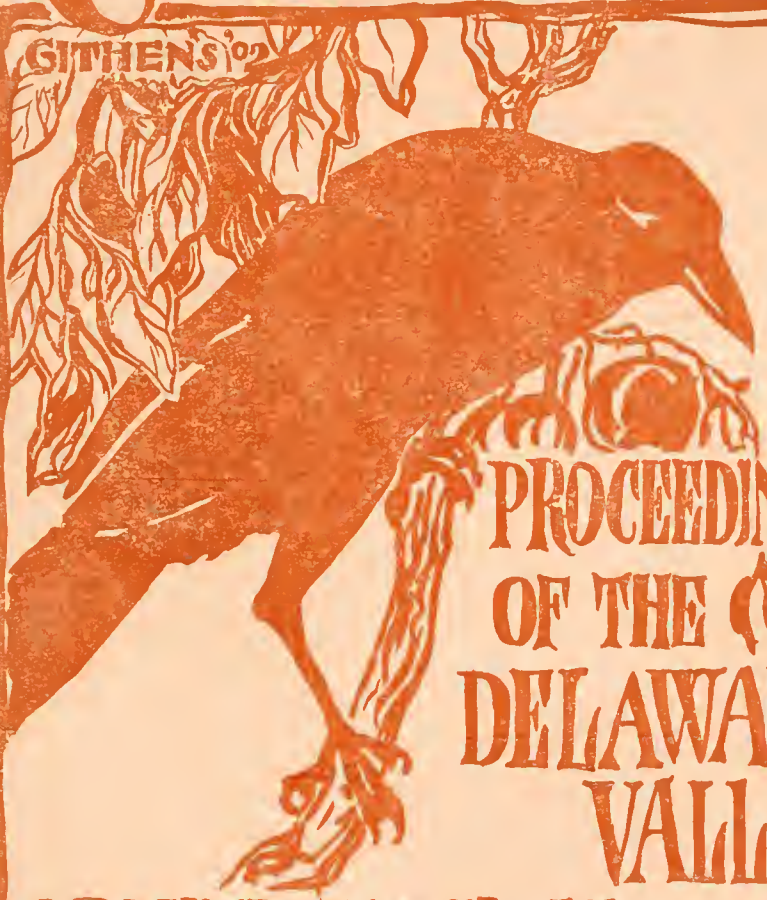

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB OF PHILADELPHIA

1902

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CASSINIA

An Annual Devoted to the Ornithology of Pennsylvania and New Jersey.

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Logan Square, Philadelphia.

Edward Harris

CASSINIA

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

No. VI. PHILADELPHIA, PA. 1902.

Edward Harris

BY GEORGE SPENCER MORRIS

In the first number of Cassinia we were so fortunate as to be able to give for our frontispiece an admirable portrait of John Cassin. His was a name well known throughout the scientific world, and in honor of him we chose the title of our magazine. This year we open with the portrait of a man less known to fame, and yet we believe that were the whole truth told of the life and deeds of Edward Harris, the ornithological world at least would learn that it owed him a deep debt of gratitude in more ways than one.

It is true that in the fields of actual discovery his name is hardly known. It was as a friend and patron of scientific men that he made his influence felt—an influence exerted so quietly and modestly that its full force might easily be overlooked, especially at this late day. Of those who shared the friendships and reaped the bounty of Edward Harris it is probable that no one was more deeply indebted to him than Audubon.

The subject of benefits conferred and accepted is always a rather delicate one, and it is not our desire to give publicity to

the private affairs of Edward Harris or his friends. We only wish the present generation of ornithologists to realize the important part he played in the early history of bird study in this country. It is true that Mr. Harris's greatest influence on ornithology was exerted through others; yet it would be doing him an injustice to give the impression that he was not a keen, careful and hard-working naturalist himself. We have been so fortunate as to have had access to a considerable number of his notes and journals, and they prove him to have been an enthusiastic and accurate student of nature. The results of his observations however seem rarely to have been published. Whether this was due to modesty or indifference we cannot say. His letters, notes and diaries have that fresh charm about them which we find in the writings of even the great ornithologists of his day when they were all learning things which the humblest bird student now knows. We always feel a quick wave of sympathetic interest and fellowship when we read of these old ornithological fathers puzzling over some bird problem, long since solved, which to us is clear enough, thanks to the labors of these very men.

Edward Harris was born at Moorestown, New Jersey, September 7, 1799, and although quite a traveler this was his only home until his death. Inheriting, as he did, a considerable fortune, it was never necessary for him to actively engage in money-making occupations. He was, however, keenly interested in agriculture and gave close and intelligent attention to the farm estate at Moorestown. The breeding of fine stock seems to have been somewhat of a hobby with him. While traveling in Europe in 1839 he attended the great horse fair in Normandy, and was so impressed with the splendid animals there exhibited that he straightway imported a number of them to this country. To him belongs the honor of having first introduced the Norman horse into America.

He was a grave and dignified man, with the courtly manner of the best gentlemen of his time. He appears to have been of a somewhat reserved nature, but always kind-hearted and generous. When once he made a friendship it was for life, and those who knew him best became deeply attached to him. One

of his warmest friends was his brother-in-law, Dr. John Spencer, who was a great-uncle of the writer. The letters of Mr. Harris to Dr. Spencer are extremely interesting, especially those which he wrote while on his different scientific expeditions.

He was always fond of nature, but it is probable that he did very little in the way of serious scientific study or collecting until some years after he was of age. In 1835 he was elected a member of the Academy of Natural Sciences of Philadelphia, being at that time 36 years old. He was on good terms with John Cassin, then a leading man at the Philadelphia Academy, and Cassin frequently refers to him in his letters and notes. On August 20, 1845, we find Cassin and Harris going together on a trip to Cape May. On June 23, 1845, Cassin in a letter to Baird speaks of Harris having called at the Academy with Audubon. This seems to have been the first time that Cassin and Audubon met, and there is reason for believing that it was the last. The meeting appears not to have been an altogether happy one, and they parted none too amicably after a warm dispute as to who discovered Falco harrisii. Again, on February 20, 1846, Cassin writes to Baird as follows: "Our ornithological corps is doing nothing. Heermann is in Baltimore studying medicine; Gambel and Woodhouse, here doing the same thing. Townsend has set up his pole as a dentist. Harris lives at home like a gentleman, as he is, and your humble servant (in his lucid intervals) tries to mind his own business with more or less success."

In the Proceedings of the Academy we find the name of Edward Harris mentioned a number of times, either as a contributor of specimens or of papers relating to various branches of natural history. In May, 1844, he exhibited an Everglade Kite. In May, 1845, he contributed a paper on certain geological formations of the upper Missouri River. In December, 1845, he presented a paper on a new titmouse, Parus septentrionalis. In December, 1846, he presented to the Museum a specimen of the Arkansas Flycatcher—Tyrannus verticalis—taken in New Jersey, which specimen is still in the Academy collection. In March, 1846, he read a paper on the difference

in height of the waters of the Gulf of Mexico and the Atlantic Ocean. In October, 1848, he presented 119 bird skins to the Academy. In May, 1857, he read some notes on the beaver, observed in the Yellowstone region. In June, 1858, he wrote a letter to the Academy from St. Croix River, describing a certain species of trout—Salmo gloverii.

His name does not appear again until five years later, when on June 9, 1863, at a meeting of the Academy, Mr. Cassin announced the death at Moorestown, New Jersey, of the late member, Edward Harris, aged 64 years.

The Academy records show him to have been a member of the Committee on Zoology from 1842 to 1848, and of the Committee on Ornithology from 1849 to 1856. Excepting as a member of these committees he seems never to have served the Academy in any official capacity.

As has before been said, Mr. Harris was a traveler of large experience. He made several trips to Europe, while his journals and letters show him to have had a thorough personal knowledge of his own country at a time when travel was a much more serious problem than at the present day.

His scientific notes made in New England and the Middle States are extremely interesting. In 1837 he went upon a trip through the South with Audubon, sailing from New York to Charleston, and from there traveling overland through the South Atlantic and Gulf States to New Orleans. Mr. Harris's notes on this trip, while very entertaining, do not indicate that any important scientific results were achieved.

In 1843 he went with Audubon, Bell and others upon the famous Missouri River expedition to the Yellowstone region, the results of which have been to a great extent given to the world by Audubon.

Evidently Mr. Harris was a keen sportsman. His journals make frequent reference to his work with dog and gun, while he gives interesting narratives of deer hunting in the South and the pursuit of the buffalo in the West. In his desire to keep the neighborhood of Moorestown a good shooting ground he frequently released live quail in considerable numbers. His note-books show how many pairs he turned out upon the local farms, and upon whose ground they were released.

In the life of Edward Harris there are no great events to point to; no strenuous efforts after fame or notoriety; yet the kind heart and generous nature of the man made him so strong in his friendships that his influence was really far-reaching. The beneficent results of that quiet, gentle, unobtrusive life reach down through the years to us of the present day, and after half a century we are glad that Edward Harris lived.

Henslow's Bunting (Ammodramus henslowii) in New Jersey

BY SAMUEL N. RHOADS

Owing to her rather anomalous position on the faunal and floral map, New Jersey has always been addicted to furnishing natural history surprises. One would think that the prying eyes and sensitive ears of the ninety and nine bird lovers and students that have ransacked the Garden State since Audubon's day would have exhausted this stock of novelties. Who would have thought, among the coterie of ornithologists that formed the nucleus of the Delaware Valley Ornithological Club in 1890, that Henslow's Bunting would prove to be locally an abundant summer resident in our limits? At that time only one specimen was known to us from anywhere in the State, and many of us had no suspicion of the bird's presence there. In fact Audubon's New Jersey records of it were classed among those which had to do solely with that glorious golden age of New Jersey ornithology when the summer tanager, mocking bird, red cockaded woodpecker and heath hen were more or less abundant. Of course it was not a fair line of reasoning which led to such conclusions, as was proved by the specimen secured by Prof. Amos P. Brown at Point Pleasant, Monmouth Co., August 16, 1886, now in Mr. Witmer Stone's collection.* The year previous Mr. H. G. Parker records having taken a nest and eggs of this bird on Seven Mile Beach, Cape May Co.* These formed the first rediscovery of a supposed lost resident of New Jersey since Audubon's records of it. He says:† "This species is abundant in the state of New Jersey and breeds there, but of this I was not aware until * * * the spring of 1838,

* See Stone's Bds. of E. Penna. & N. J., 1894, p. 114.

† Bds. of America, Vol. 3, pp. 75, 76.

when my friend, Dr. James Trudeau, sent me a specimen procured by himself while in company with our mutual friend, Edward Harris, Esq." It is probable that this specimen was taken in Harris's hunting grounds on the southern coast of the state. Audubon further states that this species is found in ploughed fields in New Jersey, an assertion I am much inclined to doubt, as such places would be entirely unsuited to this sparrow's strong desire of concealment at all times.

Subsequent to Prof. Brown's capture above referred to, Henslow's sparrow was observed by him and his brothers in the same locality for several summers. It was recognized by them as a fairly numerous summer resident in grassy fields a short distance from the beach near Point Pleasant.

A few years afterward Mr. Witmer Stone, when visiting the place, observed individuals which he thought to be of this species. No means of securing specimens then being at hand, and years elapsing without further record, an expedition was planned by five members of the D. V. O. C., viz.: Messrs. Stone, Hughes, McCadden, Baily and Hammersley, with Point Pleasant as the objective point. This was on Decoration Day, 1895. A large tract of salt marsh and sand-dune country along the south shore of the Manasquan River from Manasquan toward the inlet, was thoroughly beaten over without success. Late in the day, however, the object of the search was discovered in the drier grounds bordering the salt marsh and bogs, and in an old briery grass field several were flushed and four brought to bag. I quote from Mr. Stone's notes: "While the sun remained well up the birds seemed to stick to the grass, and were flushed with difficulty, but about 4 o'clock the males mounted the dead twigs on top of the bushes and uttered their weak insect-like song. It sounded somewhat like that of the yellow-wing sparrow, but with a more distinct single note at the start. Further than this we could discover nothing of their history. The female secured seemed to have been setting, but we could find no nests."

On May 30, 1896, the place was revisited with no better success, and in spite of beating about and dragging the ground with a long rope, no nests were discovered. The birds appeared less

abundant than the year before, but with the same habits—singing from the weed tops late in the afternoon.

Mr. Stewardson Brown, who had a previous acquaintance with the bird at Point Pleasant, also found it at Forked River, Ocean county, in the year 1895 or '96, on the 30th of May. He writes: "A number of pairs were noted on the grassy meadows between the forks of the river, about a quarter of a mile back from the bay—*not* on the salt marsh. The birds were evidently nesting. The nocturnal song of the bird is noteworthy. During the two nights we slept near their haunts we heard a constant repetition of their ordinary day song, less frequently repeated but uttered by different individuals from various parts of the meadow. There was no let up to this continuous performance at the midnight hour, when we fell asleep."

I have the following notes from Mr. W. L. Baily, whose researches along the coast of New Jersey have done much to increase our knowledge of local ornithology:

"On June 4, 1898, after Mr. Stewardson Brown had found Henslow's Sparrow at Forked River, N. J., Dr. W. E. Hughes and I took a trip there. In a single flat and low field of about two or three acres, just on the edge of the wet meadows, about four pairs were found, at least there were four males. The field was covered with a very thick growth of old grass, brambles and weeds. We tramped the field very thoroughly and tried in vain to flush the females, while the males kept up their chirping. Suddenly the birds became absolutely quiet, and for nearly an hour we could neither scare up a bird nor hear a "che-tick." (We had heard them, however, upon our first approach to the field, though I had the opposite experience at another place.) One by one the "che-ticks" began again, but they gave us no idea where their nests were located, and led us in no particular direction."

To this account Dr. Hughes adds that on this trip to Forked River he estimated the total number of birds seen at twelve, all of which appeared to be males and the three specimens shot proving to be of this sex. On a second trip which he took to the same locality with Mr. H. G. Parker, a much larger area was covered but only four birds could be found, and a most careful

search for nests was fruitless. He considers this variability in the abundance of the species characteristic, as it is quite in line with his experience at Pt. Pleasant.

Continuing with Mr. Baily's notes, he says: "While at Ocean View, N. J., about two miles above the station, and almost directly back of Corson's Inlet, on the 16th of June, 1900, I heard from my window the peculiar little note of the Henslow's Sparrow just as the sun was going down, and they kept it up until darkness was actually setting in. In the afternoon I went by wagon back into the woods about three miles to a cedar swamp, and there were the Henslow's again in the same field with Grasshopper Sparrows. It was another large, open, low field, thickly overgrown with bramble as well as weeds and Indian grass. A chirping young bird, just out of the nest and unable to fly, was located after considerable exertion, and was photographed, while the parents kept at a distance, showing very little anxiety. The young bird had a breast clear of spots, and as I learned afterwards, was undoubtedly a Henslow's Sparrow. This find of a young bird, June 16th, would seem to prove that the eggs were laid between the 20th and 25th of May.

"I was again at Ocean View June 20th, and again found the birds in front of Charlie Wright's house, where I had seen them before, in a field just above the wet sea meadow grass, acting just about as I had seen them before.

"As I had visited so few places on the coast, I began to think that whenever they do find suitable places just back of the meadows, these little-known sparrows are likely to occur. I had frequently been to Ocean View before, and in these very same fields before my 1895 trip to Point Pleasant, but had not seen the birds, probably because I did not know them.

"As an illustration, to show how insignificant the note of the bird is, and how likely it is to be missed, in 1901, May 18th, at Hursley, Md., while crossing a thick clover and bramble field with Dr. Hughes, I heard the Henslow's familiar "chetick," and immediately looked for an expression of recognition on the doctor's face, but was disappointed; even after the note had been repeated three or four times he failed to notice it.

Grasshopper Sparrows and Field Sparrows were in the same field. It was a little higher than the fields on the Jersey coast, but next to a low meadow where the Kildeers were calling."

Mr. Baily made another search on May 30th, 1902, at Ocean View, for the nest of this bird. Several individuals were seen and an empty nest, which he describes as a "tiny bed of yellow grass completely hidden right on the ground," was secured. He describes it further: "As there was no sign of a hole in it that I could see, I thought it nothing but a mouse nest, but upon raising it from the thick-set grass I found it to be more of a ball of long stiff grass lined with softer grass, but with only an apology of a hole on one side right on the sod. From these few experiences I have little doubt that many more fields in New Jersey than the localities visited are summer homes of the Henslow's Sparrow. Besides the little "che-tick" note commonly uttered, the bird has quite a song which I cannot well describe, except to say that the notes are exceedingly rapid and are jumbled together as in the song of the Winter Wren, though instead of sounding like a 'cart wheel' they resemble the noise of a belt on a revolving wheel, or somewhat like 'screw-zees, szrn-eezz-scir-en-eez.'" The author would call attention to the familiarity of this formula to that often adopted by the Grasshopper Sparrow.

Of great interest in relation to the inland distribution of this species in New Jersey are the following notes made by a most careful observer, our corresponding member, Mr. Waldron D. W. Miller, of Plainfield, Union county. He writes:

"I have seen many individuals, almost all of which were singing the odd little two-syllabled song which you mention, but have heard no other song. I've never found the nest of this bird.

"I first identified it four or five years ago, in the mountains north of Plainfield. On July 15, 1900, I noted it for the first time *south* of the mountains, except for one October migrant a year or two before. Don't think I saw it again in 1900. In 1901 I found it May 5 and 12, near New Dover (west of Rahway), where it was doubtless breeding, as I met it in same spot June 15, 1902. Also July 17, 1901, near Ash Swamp.

"This year, 1902, I have noted far more than in any previous year, finding it from Green Village (Morris Co.) to Rahway and west to Mt. Horeb (2d mountain north of Bound Brook), and generally distributed in the intervening country. I have covered more ground than ever before, this year, which may partly account for the greater numbers noted, but it has unquestionably been much commoner this year. I never before met it in June south of the mountains.

"Following is a list of all the Henslow's Sparrows noted this year, and doubtless nearly all were breeding:

April 20.—1 Washington Valley, Washingtonville; 1 Passaic Valley, Berkely Heights.

April 27.—1 Iselin (Middlesex Co.).

May 11.—2 Coontown (mountains).

May 18.—2 Mountains.

May 24.—2 Mountains.

June 7.—1 Berkely Heights.

June 14.—1 Washington Valley.

June 15.—1 north of New Dover.

June 18.—1 west of Scotch Plains.

June 22.—1 Menlo Park (Middlesex Co.).

July 5.—2: 1 Great Swamp, Myersville; 1 Passaic Valley, Gillette.

July 6.—2 Ash Swamp.

July 12.—2 west of Scotch Plains (same as June 18).

July 14.—1 or more Great Swamp.

July 17.—5 Great Swamp.

July 20.—4 south of New Dover.

"While up to 1902 I had found so few south of the mountains, I had found it much more commonly in the Passaic Valley, and especially the Great Swamp. I believe that they breed in the Great Swamp region every year. They seem to be very erratic in their choice of a summer home, in this respect resembling the Short-billed Marsh Wren, which is often found in the same places. I have found them in some wet meadow one year, and the following year not one would be there, though the Swamp Sparrows and other common birds were present as usual, and the haunt apparently unchanged.

"I have given my records in detail merely to give you a better idea of its status in this vicinity than you could obtain from any general statement. This year it has been generally distributed and comparatively common.

"Wet fields or meadows are its usual if not invariable breeding grounds here, and it seems satisfied with a very small tract of this character."

My own acquaintance with this mysterious resident of our state began in 1902, while on a quest for a very different sort of zoölogical novelty which also dated its historic prominence to the time of Audubon's activity. To paraphrase a verse of John Gilpin's ride—

> "Though upon *mammals* I was bent,
> I had *the birds* in mind."

Speeding along on my silent bike across the rather hilly country which slopes down to Delaware Bay, between Salem and Greenwich, when about four miles north of Greenwich (Cumberland Co.) and two and a half miles from the bay, I was brought to a quick pause by a bird note brand new to my mental catalog. The rather sudden apparition of panting humanity peering over a rail fence did not seem to disconcert the innocent cause of the intrusion, but with clock-like regularity the quarter minutes were recorded by the weak, sharp "chi-slik" of an unseen performer. The sound seemed to come out of the ground of a briery, neglected grass field fifteen or twenty feet away. The bird was not seen till I mounted the fence, when, with a sudden mouse-like movement, it stole away from a low perch just above the ground and vanished. By active beating about it was repeatedly flushed, only to dart off a few yards and hide among the grass. It invariably avoided alighting on grass, bushes or fence. In the course of another mile's ride I found another individual singing in a similar locality. Both these were on high upland pastures, no swampy or meadow ground being in sight.

I then remembered having heard the same song the day before at dusk on the upland borders of the salt marsh at the mouth of Alloway's creek, one mile from Hancock's bridge in Salem Co.

There were three or four performers on that occasion within earshot, but none were seen because of the darkness. All seemed to be on or near the ground, and as I approached grew silent a few moments and then resumed singing a few yards away. I judge from this and other observations that they are peculiarly addicted to nocturnal reveries in the breeding season, a trait shared somewhat by their cousins the Grasshopper Sparrows.

A very thorough search of the same kind of country surrounding Salem and Greenwich failed to reveal this sparrow.

On May 9, 1902, Mr. Stone and myself tramped across country from Bridgeton to Greenwich with this sparrow specially in mind, but found none until we reached the low, flat grounds bordering the cultivated uplands, a broad stretch of meadow which is overflowed only by the neap tides, and is interspersed with groves of water oaks, greens and bushes. In a wet pasture field grown with Indian and swamp grass and a few bushes we discovered quite a colony of Henslow's Sparrows, evidently breeding. Their peculiar songs first betrayed them and from three to five o'clock, or during the whole time we were engaged in searching for their nests, they sang more or less steadily. Perhaps there were six to ten pairs of birds which seemed particularly attached to this field of ten acres, and could not be driven out of it. After being flushed repeatedly they would squat so closely in the dense mat of grass that I twice nearly succeeded in catching one under my outspread coat. The most careful search for nests was fruitless.

In the whole class of singing birds known to me the song of this species ranks lowest in all respects. It is essentially lacking in strength, volume, length, melody or variety. Its one redeeming quality is repetition. To offset its many deficiencies the humble vocalist chants night and day.

As I have strained my ear to catch its message amid the wild chorus of May bird song that rose from the surrounding fields and woodland, I have thought its place in nature's song service was purely the responsive one of saying "Amen;" and that thought has given this Quakerly *Te Deum* no mean place in my affections. The song of its kinsman the Grasshopper Sparrow, so named because of the insectile character of its voice,

is vastly superior to that of the "Amen" sparrow, in fact they do not seem to belong to the same class. It is, however, asserted that this "Amen" performer has a fine song in reserve which it sings in more ecstatic moments. This I have never heard. The scolding note is a simple bird "chick." I have not seen this bird alight on a tree, brush or fence. It generally sings from the ground or less than a foot above it on low grass, sometimes climbing to a dead weed or brush top 18 inches high, but always descending like a mouse to the ground on a person's approach, and flying away just as you are about to step on it, not often sneaking about for safety on alighting as do other ground sparrows.

Taking the facts of its occurrence in New Jersey as now known, we may look for Henslow's Sparrow to be locally present in the breeding season along the entire stretch of intermediate neap-tide meadows which stretch from Hudson county along the Atlantic coast to Cape May and thence along Delaware Bay to Salem. If they were to be found in upper Gloucester or Camden counties, the very thorough exploration of these districts by our members for the past twenty years would almost certainly have revealed them.

From the recorded notices of this species in other parts of Pennsylvania and New Jersey, especially when we take the observations of Mr. Waldron Miller into account, it is fair to prophesy its occurrence in the breeding season in the most unexpected localities throughout the region. While it seems to be a rule that they prefer wet lowlands, more especially along the tidewater, they may also frequent in much diminished numbers dry upland or moist fields several hundred feet above sea level and far removed from the coast.

Whether Henslow's Sparrow is materially increasing in numbers on the Atlantic coast is a question hard to decide for New Jersey at least, owing to the lack of past records. Mr. Miller's inland records however are significant, and are somewhat confirmed by observers in the vicinity of Washington, D. C., one of whom, Mr. Paul Bartsch, declares that he found the bird very much more abundant in 1902 than ever before, though he is inclined to attribute this to his better acquaintance with the species and his consequent ability to detect its presence.

The Unusual Flight of White Herons in 1902

BY WILLIAM B. EVANS

DURING the late summer months and early fall of the present year (1902), in southeastern Pennsylvania, southern New Jersey and parts of Delaware and Maryland, an unusual number of White Herons have been seen, at points near the coast and inland along the tide and fresh water courses. At least two species were represented in this northerly movement which seems to follow the nesting season, the American Egret (*Ardea egretta*), and the Little Blue Heron (*Ardea cærulea*). The latter, although dark blue in the adult plumage, is an almost pure white during its first summer. This bird was unusually numerous, and to it, probably, most of the white heron records refer. A third species, the Snowy Heron (*Ardea candidissima*), has also been reported, but as just stated, in most cases these records probably refer to the Little Blue Heron, the two birds being of nearly the same dimensions.

As the appearance of any of these birds in the Delaware Valley region is now considered worthy of notice in ornithological annals, it has been thought worth while to endeavor to collect as much information as possible concerning them, and for the following records I am indebted to many observers both within and without the pale of D. V. O. C. membership.

A brief summary of the distinguishing characters of size and post-nuptial plumage of these herons, condensed from Chapman's "Handbook of Birds of Eastern North America," may here be given a place, since the three are undoubtedly often confused.

The American Egret (*Ardea egretta*) which now breeds as far north as Virginia, measures forty-one inches from the tip of beak to the end of tail. The entire plumage is white; legs and feet black; bill yellow.

The Little Blue Heron (*Ardea cærulea*) breeding to about the same limit, is twenty-two inches in length. The adult plumage is of a dark bluish slate color, except the head and neck which are maroon chestnut. The legs, feet, and bill are black. But the immature bird is white, the plumage sometimes more or less washed with slaty; the tips of the primaries always bluish slate color; legs and feet greenish yellow.

The Snowy Heron (*Ardea candidissima*), which breeds as far north as Long Island, N. Y. (*fide* Chapman), measures twenty-four inches in length. The entire plumage is pure white. Legs black, feet yellow, bill black, yellow at the base.

The abundance and distribution of these birds, particularly *Ardea candidissima*, has been so greatly altered by the demands of the plume-wearing fashions, that the information contained in the older books can no longer be relied upon as expressing present conditions. From the fact that not a single specimen of *Ardea candidissima* was found among the fifty birds shot, which I have seen or known of, we may suppose that the Snowy Heron is now a rare bird with us.

Again the Little Blue Heron, which is set down in Stone's "Birds of Eastern Pennsylvania and New Jersey," as a rare straggler from the south, with but three positively identified specimens to its credit, seems within the last four years to have been more numerous as a late summer and fall visitor.

The following records of *Ardea egretta* are prior to 1902, and not contained in the last mentioned work nor in the Club's Proceedings.

In 1894 in late summer, one shot at Buzby's Bogs, three miles southwest of Taunton, N. J., now in possession of Joseph S. Evans, Marlton, N. J.

About 1896, one shot from flock of six at Buzby's Bogs, now in possession of Samuel Burroughs, Haddonfield, N. J.

1902 Records.

7 mo., 10th, 1902, one shot from flock of seven near Kennett Square, Pa.—C. J. Pennock.

7 mo., 20th, 1902, one seen by Witmer Stone at Wawa, Pa.

7 mo., 26th, 1902, one shot near Berwyn, Pa., along Darby

Creek. Reported by F. L. Burns, in the Wilson Bulletin, No. 40, page 109.

8 mo., 3d, 1902, four near Cobb's Landing, Eastern Shore of Va. 8 mo., 8th, 1902, eight flying in line closely followed (in fact one of the string) by a Great Blue Heron.—F. C. Kirkwood.

Captures or reliable records of *Ardea candidissima*, none.

Records of *Ardea coerulea*, prior to 1902.

8 mo., 1898, one (white plumage) shot in New Jersey, now at Louis Weber's, No. 2518 N. 2d St., Phila., Pa.

7 mo., 23d, 1899, one (white plumage) seen on the Delaware river below Frenchtown, N. J., by John D. Carter and Wm. B. Evans.

During 8th and 9th months, 1899, forty or fifty seen in a swamp near Bristol, Pa., by G. F. Brown.

Latter part of 8th mo., 1900, abundant at Stone Harbor, N. J.—D. N. McCadden.

About 1900, two in white plumage shot at Bristol, Pa., now in possession of J. R. Beath, 2241 Frankford Ave., Philadelphia.

About 1900, two (white) shot at Trenton, N. J., now in possession of Edwin C. Axe, 4137 Frankford Ave.

1901, fifty or sixty seen on Atlantic City meadows, N. J., by responsible people known to W. H. Werner, Atlantic City, N. J.

The following are records for 1902:

Cape May, N. J. First seen during first week in 7th mo. During second week in 8th mo. greatest abundance. One flock of forty or fifty. Probably two hundred seen during day, unless same flock was seen more than once. Last bird seen 9th mo. 29th. The species has been recorded at Cape May in summer for ten years.—H. Walker Hand.

Tuckerton, N. J. First seen 7th mo., 10th. Disappeared about the last week in 8th mo. Just previous to their departure they were very numerous. Forty or fifty seen at one time feeding in a salt pond, three or four acres in extent. On 7th mo., 14th, one (young) shot. On the 18th, six young shot and two adults. Number secured in all, twenty.—A. H. Jillson.

Gunpowder Marsh, Md.

7th mo.,	13th,	number seen,	six.
	15th,	" "	eleven.
	16th,	" "	seven.
	25th,	" "	fifty.
	28th,	" "	thirty.
	29th,	" "	thirty.
	30th,	" "	fifty.
8th mo.,	2d,	" "	thirty.
	5th,	" "	sixty.
	7th,	" "	thirteen.
	9th,	" "	eleven.
	13th,	" "	five.
	18th,	" "	three.
	20th,	" "	eleven.
	21st,	" "	three.
	25th,	" "	seven.
	30th,	" "	three.
9th mo.,	1st,	" "	one.

Possibly some of the birds here recorded may be *Ardea egretta*. In 1896, recorded as early as 7th mo., 8th, and as late as 10th mo., 7th, in 1892.—F. C. Kirkwood.

Kennett Square, Pa. Flock of white herons, seen during last two weeks of 7th mo. on Red Clay Creek. One specimen, shot, was examined by C. J. Pennock.

Billingsport, N. J. First seen about 7th mo., 20th. About 8th mo., 12th, seen in large numbers. On 8th mo., 16th, one (white) shot. On 8th mo., 25th, one (white) shot (seen at Krider's gun store). Departed about 9th mo., 1st. One week before 9th mo., 1st, about 400 birds seen on the river bar.—Albert M. Barnes.

Point Pleasant, N. J. On 7th mo., 22d. Twelve birds in white plumage seen.—Stewardson Brown.

At Ephraim Pond, near Haddonfield, N. J. First seen about 7th mo., 24th. On 7th mo., 27th, twelve or fifteen seen, one in adult plumage. One (white) shot and brought to Academy of Natural Sciences.—Samuel N. Rhoads.

Rancocas, N. J. One (white) seen flying, three-quarters of a

mile above Centreton, N. J., on 7th mo., 26th. On 9th mo., 14th, one in white plumage flew out of gravel hole in which was considerable water.—Emily Haines.

Frederick, Md. On 7th mo., 30th, two birds in white plumage seen and shot. Sent to Philadelphia to be mounted.—M. Hoke.

Lenape, Pa. One (white) seen on 8th mo., 3d, along Brandywine creek. Two were afterward shot and mounted in West Chester.—John D. Carter.

Cat Creek, Va. On 8th mo., 8th, ten in white plumage seen by F. C. Kirkwood.

Riverton, N. J. White birds seen on Delaware river meadows just after exceedingly heavy rains of 8th mo., 10th.—Howard G. Taylor.

Moorestown, N. J., Lippincotts' pond. About 8th mo., 12th, first seen. On 8th mo., 17th, five seen by Morris Linton. On 8th mo., 19th, five seen by Wm. B. Evans. On 8th mo., 20th, six seen by A. A. Mickle. On 8th mo., 21st, one seen by Chas. Evans. Reported also by Walton B. Leeds.

Westtown, Pa. On 8th mo., 13th, one (white) seen with broken leg. On 8th mo., 14th, three (white) seen, and two (white) on 8th mo., 15th (James G. Vail).—George Forsythe.

Gunpowder Marsh, Md. On 8th mo., 16th, one adult seen from passing train by Jas. A. G. Rehn.

Bristol, Pa. On 8th mo., 17th, two (white) seen four miles north of Bristol. On 8th mo., 24th, two* (white) seen on Florence Bar, and on same day one* (white) seen on Crosswick's Creek. On 9th mo., 21st, fourteen (white) seen below Bristol near mouth of Neshaminy Creek.—Thomas D. Keim.

Buzby's Bogs, near Taunton, N. J. On 8th mo., 23d, one (white) shot, mounted at Krider's. On 9th mo., 10th, twelve or fifteen seen, and two shot. Seen to catch and eat small frogs.—A. C. Powell.

The same flock also reported by Joseph S. Evans, of Marlton, N. J.

Cupola, Pa. On 8th mo., 28th, one (white) shot on dam in Brandywine Creek. Specimen given to Chreswell J. Hunt.

* Claimed by Dr. C. C. Abbott, who was present, to be *A. candidissima.*

Moorestown, N. J., Haines' Pond. On 8th mo., 29th, six seen, one in adult plumage. On 8th mo., 30th, one (white) seen. Also found body of one (white), shot about 8th mo., 16th, by boys. On 9th mo., 3d, one (white) seen.—Wm. B. Evans.

Sharon Hill, Pa. For week, 8th mo., 30th, to 9th mo., 6th, a flock of twenty-five to thirty white herons, one dark blue, seen near mouth of Darby Creek.—J. H. Lincoln.

Townsend, Del. Large number seen on last day of 8th mo. —H. W. Wenzel.

Tinicum and Mond's Islands, in Delaware below Phila. For two weeks from 9th mo., 1st, small white herons and one small blue seen. Fourteen in one flock.—Edward Singleton.

New Jersey shore, opposite Chester, Pa. On 9th mo., 5th, six (white) seen in shallow water. Seen from a passing boat. —F. N. Owen.

New Egypt, N. J. During first two weeks of 9th mo., one adult shot by J. R. Beath, Jr., and forwarded to Phila. by Adams Express. Never arrived.—J. R. Beath.

Mouth of Cohansey Creek, N. J. On 9th mo., 10th and 11th, seventy-five (white) seen from boat.—James Roney.

Small White Herons were also seen in the following localities but the exact dates were not preserved:

West Grove, Pa. Along White Clay Creek.—Wm. B. Harvey.

Moylan, Pa., along Ridley Creek.—Nathan Kite.

Atlantic City, N. J. (2 specimens to be mounted).—W. H. Werner.

Bristol, Pa. (flock of 25–30), during 8th mo.—G. F. Brown.

Cape May, N. J. 1 specimen mounted at Kriders.—Vanneman.

To the above may be added the notes contained in two letters, received in answer to requests for information.

* * * "The White Herons were first seen about Billingsport (N. J.) about July 20th, but only in small numbers; but about the 12th of August a large flight came on, and these birds were here in large flocks until about September 1st.

* * * "From my own observations and from those of friends, I estimate that on the 'Bar' at low water, fully four hundred

(400) of these birds would congregate each day for about a week, when the number began to diminish—but I am glad to say not from the hunter's gun, for they left in small flocks, never more than thirty, which did not make their exit so marked.

"On Sunday I found an old man who had found a wounded heron early in the season, and now he has made quite a pet of it, and while the bird is now able to fly from careful nursing, it makes no effort to escape and seems entirely content with its new surroundings. The old man says he would not part with the heron for $25.00, for it hops about his shanty and makes him company. He also told me that the Heron will fly off for two hours sometimes, but returns with a morsel of food it cannot procure around the cabin.

"Yours very truly,

(Signed) "ALBERT M. BARNES."

"ATLANTIC CITY, N. J., OCTOBER 23, 1902.

* * * "During the time the *A. coerulea* are here I am very busy with other work. To my knowledge the above-named species has been noticed here on the meadows for the last three or four years. They make their appearance about the last week in July or beginning of August, and generally stay about two or three weeks. Last year (1901) they were more numerous than at any other time.

I never found them breeding here in Jersey. In 1872 I found quite a large colony of *A. candidissima* breeding in the neighborhood where Ocean City is now located. I counted as high as eight or ten nests on one tree. I secured some magnificent specimens of birds and also nests and eggs, which are now in the collection of Lehigh University, Bethlehem, Pa. There were also a few sets of *A. virescens*, but no sign of the Little Blue Heron (*A. coerulea*). * * *

Respectfully,

(Signed) W. H. WERNER.

Notes on the Germantown Grackle Roost

BY ARTHUR COPE EMLEN

THERE is nothing new to any of us in the fact that many of our birds which may not be especially sociable during the day congregate in large numbers to pass the night together in some favorite spot. And yet common as this occurrence may be, there are comparatively few accounts of such gatherings.

Occasionally we find mention of such a habit in the Grackle, but with the exception of Prof. Lynds Jones' paper on "The Oberlin Grackle Roost," there is no satisfactory account of the roosting.

Therefore with the hope of being able to throw a little more light upon the life history of the Purple Grackle, I will discuss in some detail a favorably situated roost that it has been my privilege to study in the upper part of Germantown, Phila.

Forty-five years ago the land which is now occupied by the roost was waste pasture land, but not long afterwards many young trees were planted there, and soon the Grackles and Robins began to congregate in the grove in noticeable numbers. At first they did not use the place so much as a roost as a breeding ground, the number of young evergreens with their thick shelter seeming to attract them.

As time went on and the deciduous trees grew larger and the evergreens were thinned out to give them more room, the Grackles began to take to the deciduous trees; but this time more for roosting purposes, until to-day not more than twelve pair of Grackles build on the whole fifty acres, while hundreds come every evening all through the breeding season to roost, and as the summer advances this number increases until by August the whole country-side of Grackles comes regularly to spend the night in the few small patches of beech and maple which occupy the southwestern slope of these grounds.

Why this spot should be chosen from the number of seemingly more acceptable places, is more than I can tell, unless it be for the fact that the birds are undoubtedly less disturbed where they now roost than they would be in any other woods in the near vicinity. But to my knowledge they have never tried roosting anywhere else, so how they realize this protection is a question.

Several attempts have been made to dislodge this roost by shooting off rockets and the like, but as it was not kept up for any length of time, it did not seem to affect them to any extent.

During August and September, Robins, Cowbirds and Red-winged Blackbirds seem to get the social fever and collect in great quantities to roost in the lower branches. Even the English Sparrow seems to approve of this method of spending the night, as every evening at sundown the lowest branches of the beeches are filled with them and their quarrels.

This habit of roosting in large quantities is so interwoven with the rest of the Grackle's life that a more thorough acquaintance with the life history of the bird is necessary before a satisfactory conclusion may be reached. With this idea in view then, let us follow this bird from the time he comes to us in the spring until his departure in the late fall.

Any warm spell during the winter is very apt to bring a small bunch of Grackles back to the roost for a night or so, or as long as the warm weather lasts. In fact, during the winter of 1897–8, about 50 birds stayed at the roost all winter, with the exception of only a few nights. Towards the last of February a few Grackles generally come to stay and this number increases all through March, until by the first of April they have begun to think of mating and are scattering over the neighboring country in pairs.

Of course the number of nightly visitors at this season dwindles down to comparatively few, but there are always some who do not seem to have any domestic cares, and these, with the help of a few old males who have their nests in the vicinity, keep up the roost.

Not long after this the earliest of the broods are about ready to leave the nest, and as the strongest gets ready to fly, he is

brought to the roost by the old male, and so until the last comes, accompanied by the mother bird.

About this time the molting begins for the old birds, and as the fruit is just ripening, they need take no long flights in search of food.

By collecting the cast wing feathers that were found on the lawns or near the roost each day, and comparing them with those of a museum specimen, I found that the first feathers lost were the innermost primaries, while toward the close of the molting season those picked up were the outer primaries or the secondaries. This coincided exactly with Mr. Stone's statements, based upon a study of molting specimens.

The general habits of the Grackles vary according to their diet, as in June, while molting their flight feathers, they are content to stay near-by and catch grasshoppers in the newly-mown hay-fields or rob cherry trees and blackberry vines. As their flight feathers get a little stronger, they visit the neighboring fields of green corn and other cultivated fields, still taking time to scatter over the lawns just before going to roost in search of worms and insects.

As the summer wears on and the food becomes scarcer the Grackles have to go great distances, but unfortunately I have not been able to discover many of these distant feeding grounds and therefore cannot give a very accurate account of how far from the roost they actually feed.

The only way I have been able to form any estimate of the distance these birds traveled was by stationing myself at some point of advantage and watching the lines of flight, but even then I could only learn that they came from great distances.

While at Medford, N. J., about September 1st, I noticed on two separate afternoons Grackles flying west at a great height. Medford is about thirty miles east of the Grackle roost at Germantown, and as Grackles are seen every afternoon coming from the east at a great height I think there is little doubt but that they, in some instances, have their feeding grounds more than thirty miles distant.

A better understanding of the arrival and departure of these birds may be formed from the detailed account of Sept. 12, 1900, station on top of house near roost:

5:15 a. m. No Grackles to be seen or heard.

5:25 a. m. First birds begin to call and move about in the trees.

5:35 a. m. All birds are moving about and making a great deal of noise. One tremendous flock has just risen, flying north.

5:45 a. m. Sun rising and not a Grackle to be found at the roost.

6:30 p. m. Grackles have been coming in in scattered bands from all points, but now the main body of the flight has passed.

6:50 p. m. Few belated stragglers are hurrying in to join others at the roost.

7:00 p. m. Apparently all the birds have arrived at the roost, but still very noisy.

7:20 p. m. All quiet.

These observations are typical of the whole roosting period. The birds wake with the break of day and keep up a continual noise until sunrise, when they leave the roost to return again with the setting of the sun, and all noise ceases as darkness falls. The Grackles come in earlier on a rainy day but do not quiet down sooner than usual. As summer advances the flocking increases steadily and the number in the roost does not decrease until about the middle of November, when the colony rapidly grows less.

The young birds are fed by the parents for some days after they begin to occupy the roost.

These notes form simply an outline of the history and life of this roost, but they will I trust give some idea of what a field for study there is in this phase of the Grackle's life—a study which will well repay any one who has the time and opportunity to devote to it.

The Heart of the New Jersey Pine Barrens

BY HERBERT L. COGGINS

As the scientific ornithologist might readily conceive, a forced march, even of six days, across the New Jersey "Barrens" is not likely to yield notes of any great value to the science of ornithology. When, therefore, the writer was asked to give an account of himself and of the others who made the aforesaid trip, his reluctance in complying was due less to his extreme modesty than to the fact that there really seemed so little to say relative to bird life.

Our plan of travel as outlined was to start from the town of Medford, situated just on the edge of the barren region in Burlington County, New Jersey, and work our way east, stopping at such points along the route as might be desirable, with the ultimate purpose of investigating that particularly interesting portion of the Barrens known as the "plains." With this in view, Witmer Stone, J. A. G. Rehn, and the writer, accompanied by a horse and wagon bearing a generous load of provisions and the paraphernalia common to the collector, started forth from Medford on June 17, 1901.

In commenting upon our outfit we could not feel justified in omitting our mosquito armor, a very admirable apparatus, which although distinctly a failure as a means of protection, nevertheless proved of undoubted service in the capturing of tadpoles and many varieties of insects.

Our camp on the first night was pitched on the edge of the Batsto river, which is in reality a small creek draining the surrounding bogs. To some of us whose previous camping experience had been limited, the first night on the Jersey Barrens was not one of unwonted luxury, but it was a night long to be remembered. From all sides came the notes of the Whip-poor-wills so close at hand as to be fully distinguishable above the

chorus of the mosquitoes. A damp fog was rising from the marsh below, and this with the fact that the thermometer was well down in the fifties did little to gladden our hearts. Nor was our party cheered to any noticeable extent when the horse, which had apparently been of unsettled mind the whole evening, suddenly broke halter and started off in the dark towards Medford. However, our party was again united somewhat less than a mile from camp and the rest of the night was passed in a less exciting manner.

We arose in the morning with a feeling comparable to the physical pangs of Rip Van Winkle awakening from his twenty years' sleep on a granite bed, except possibly for the fact that the latter did get some sleep. The notes of the Whip-poor-wills, which had kept up almost incessantly during the night, had now, as the sun rose, subsided to a gentle murmur.

After breakfast and a hurried preparation, we left behind us the pine region surrounding the Batsto and struck out across the barrens.

It was well into the afternoon of our second day that our party, tired, hungry and eager for an excuse to rest, arrived at the little town of Speedwell. After the weary stretches of the barrens, this little village presented to one's eyes a very pleasing contrast. Though its entire population numbers now but four persons, Speedwell occupies a very considerable clearing on the edge of a cedar swamp in the very heart of the Jersey Barrens.

Some fifty years ago, the little village was a thriving settlement, owing its existence to the iron which was then extracted from the soil of the neighboring bog. When this industry no longer paid, Speedwell declined until it is now but a few dilapidated houses and the remnant of the old iron furnace.

The clearing, however, with its meadows, orchards and shade trees remains, and so affords shelter for many birds which, however common they may be in our own farm lands, are strangers to the immediately surrounding country. Here we found the Dove, Chimney Swift, Humming bird, Red-eyed Vireo, Orchard Oriole, Yellow-billed Cuckoo and Purple Martin.

It was in this almost home-like region then that we decided to take up our headquarters and made preparation accordingly.

It was here, too, that in the interims of our conflict with hordes of mosquitoes, we prepared to collect specimens and make observations upon our surroundings.

Roughly speaking, the Barrens occupy the whole of New Jersey, south of a line drawn between Monmouth and Salem counties. Yet while crossing this district we are constantly struck by the great variation in the physical character of closely adjoining areas, and at the same time we are reminded of how much certain species of birds are dependent upon these same physical characters for their distribution.

For instance, while passing the cultivated district of higher tree growth, between Medford and the little village of White Horse, we noted, among other species, the Scarlet Tanager, Downy Woodpecker and Indigo Bunting. None of these birds were observed at any other locality.

Although the whole of the region covered by our trip beyond White Horse is spoken of as the "Barrens," it, nevertheless, presents two very different and almost contrasting physical characters—the cedar swamps and the plains.

The somewhat circular outlines of the cedar swamps occur through the entire barrens and form one of the most striking features of the region. These swamps, or bogs, more properly, are apparently but shallow pools of amber-colored water stained by the moulding vegetation. In some cases their origin can be traced to the overflow of a nearby stream or else it is the drain from impervious soil collecting in a slight depression. Upward from this grows an almost impenetrable jungle of white cedar, rendered even more difficult of traverse by a dense growth of underbrush. Such a growth, and particularly in such an isolated area as the Barrens, might well shelter many of our rarer and wilder species. It was only in these secluded fortresses that we found such birds as the Parula Warbler, White-eyed Vireo, Hairy Woodpecker and White-bellied Swallow, all of which seemed to be characteristic of the cedar swamp.

While exploring one of these bogs I was again impressed with the peculiarity in the notes of certain individuals of the Maryland Yellow-throat, a fact which I had previously noted in the case of one or two birds in a somewhat similar locality on the island

of Martha's Vineyard. If we may represent the usual song of this bird by the oft-quoted syllables "Witch'-er-y! Witch'-er-y! Witch'-er-y!" then the call of the exceptional individuals would be expressed by the differently-accented syllables, "Witch-er'-y! Witch-er'-y! Witch-er'-y!" So great was the effect produced by this apparently simple variation, that on more than one occasion the writer was misled into the search for a rare bird by what finally revealed itself in the form of a Maryland Yellow-throat.

In direct contrast to the cedar swamps are the so-called "plains." These are locally known as the East and West Plains, and are situated on the border between Ocean and Burlington Counties. It is in these spots that the Barrens reach their most emphasized form.

As we near the plains the scrub oak, which had been decreasing noticeably in size ever since leaving White Horse, now sinks to waist, and then knee-high. A singular region, hot, level, dry. We wade into the scrub scarce able to believe that it is over the top of a dwarf forest that we are gazing for miles. Its barrenness, except for the stunted vegetation, recalls vividly to our mind long forgotten descriptions of desert regions. The heat rising from the parched ground gives a blur of uncertainty to distant outlines, and we close our eyes involuntarily before the glare of the sun on the exposed gravel areas. Chewinks and Brown Thrashers scuffle listless in the dry soil. A mere speck in the open sky, a Turkey Vulture, circles lazily for a time, then drops from view beyond the horizon. A little tree-lizard at our step scurries across a gravel patch and disappears under the dry leaves. The only other sound of life is the weary, vibrant trill of the Prairie Warbler, which rises on the hot air like a supplication for life.

Bird life on the East Plains was represented by the Chewink, Prairie Warbler, Field Sparrow, Brown Thrasher and Maryland Yellow-throat. Had it not been for the writer's previous experience in the scrub oak regions on the Island of Martha's Vineyard, the presence of the two last species would have been puzzling, to say the least. To all appearance the Maryland Yellow-throat was at much at home among the dry scrub, miles from water, as he would have been in the most tangled briers of the cedar swamp.

A curious fact about the Brown Thrasher, whom we are accustomed to associate with the fence posts and blackberry bushes, is that on these plains and in other such localities the nest is almost invariably built on the ground.

On the fourth day after our arrival at Speedwell we visited the West Plains. Although the two regions are in close proximity there is one noticeable difference in the physical character of the East and West Plains, at least in the sections visited by us. The scrub oak (*Quercus nana* and *marylandica*) which is so conspicuous a feature of the former region is, in the West Plains, decidedly outnumbered by the dwarfed pine (*Pinus rigida*) whose branches instead of growing perpendicular have spread themselves octopus-like over the surrounding ground. Some of the monarchs of this forest are only a foot high with branches but two feet in length, but nevertheless loaded with cones.

We found here too in abundance the Prairie Warbler, Chewink, Field Sparrow and Maryland Yellow-throat, but singularly enough the Brown Thrasher was not observed by any of the party.

In journeying to the West Plains our road on one occasion led us through a low swampy area covered with scrub oak, above which towered the gaunt, bleached trunks of what were once large trees, now riddled and worn by the bills of generations of woodpeckers. Here much to my surprise we encountered the House Wren in considerable numbers, scolding and warbling in turns, and fully as self-possessed as about our yards and buildings.

The night following our visit to the West Plains was spent at Jones' Mill, a little settlement on the edge of a mill pond some three miles north of Speedwell. According to Mr. Lee, who had kindly allowed us to take shelter for the night in his straw shed, a pair of Black Ducks were then nesting in the marsh at the upper end of the pond. Our time being limited, however, we were unable to confirm this record. Indeed, the only observations made during our stay at Jones' Mill were those disproving a surmise of the previous evening to the effect that Speedwell was the headquarters of all mosquitoes dwelling in the Barrens. Further experience along these lines convinced us

that in seeking shelter in Mr. Lee's straw shed we had unwittingly stumbled into what was probably the very council chamber of these most attentive insects. It is to the latter rather enforced discovery that we can directly attribute our unusually early start on the following morning.

It was about five o'clock on the morning of our sixth day out from Medford that we started on the return journey. This was, indeed, a forced march, urged by that perfectly natural desire to get through with a tedious task. One by one we passed the little villages of Chatsworth, Friendship, White Horse and Red Lion. The sun, now at its height, poured down mercilessly upon the tired and thirsty travelers. A few Turkey Vultures, soaring just overhead, survey us with expectant eyes, but we, ungrateful for this unusual attention, plod onward.

Probably Ulysses in olden times was not more delighted, after his long wanderings, by the sight of his beloved Ithaca, than were we as upon coming within sight of Catoxen Cabin, our starting point on the outskirts of Medford. And yet none of us regret our trip, but look eagerly forward to a future visit to those peculiarly interesting regions—the New Jersey Barrens.

Report on the Spring Migration of 1902

BY WITMER STONE

THE study of bird migration was the primary object in the organization of the Delaware Valley Ornithological Club in 1890, and for several years much attention was given to collecting data upon this subject. After a time, however, the inability of the members to make daily field observations prevented the continuance of the work. The results obtained are embodied in the introductory portion of the "Birds of Eastern Pennsylvania and New Jersey."

With the general spread of popular bird study during the last few years, the number of persons capable of assisting in this line of work has been vastly increased and the Club, therefore, decided to again undertake the study of migration in the Delaware Valley.

In the spring of 1902, schedules for recording observations were sent to a number of persons who were regarded as possible co-operators in the undertaking, and a very encouraging response was the result, so that we are able to prepare a report of more than ordinary interest on the spring migration of 1902.

Those who have aided in this work and their stations are as follows:

NEW JERSEY.

H. Walker Hand, Cape May.
Mrs. E. M. Hamlin, Haddonfield.
Wm. B. Evans, Moorestown.
Anna A. Mickle, Moorestown.
Rachel E. Allison, Yardville.
Emily Haines, Rancocas.
Josiah H. Clark, Paterson.
W. D. W. Miller, Plainfield.

PENNSYLVANIA.

Charles J. Pennock, Kennett Square.
Mrs. Katharine R. Styer, Concordville.
G. W. Trimble, Lenape.
William Carter, Lenape.
J. K. Brown, Jr., Westtown.
Edith Smedley, Westtown.
Hugh E. Stone, Coatesville.
Howard Y. Pennell, M. D., Downingtown.
Frank L. Burns, Berwyn.
John D. Carter, Haverford.
Miss Dorothy Farnum, Rosemont to Haverford.
William L. Baily, Ardmore.
William J. Serrill, Ardmore.
Miss Emily Hinds Thomas, Bryn Mawr.
James F. Prendergast, M. D., West Fairmount Park.
William E. Hannum, Swarthmore.
William E. Roberts, Swarthmore.
Samuel C. Palmer, Swarthmore.
L. I. Smith, Jr., Tinicum.
Fredk. N. Owen, Mt. Moriah.
Aldrich J. Pennock, Lansdowne.
Anna D. White, Lansdowne.
Harold Evans, Germantown.
Frank Miles Day, Germantown.
Samuel Mason, Jr., Germantown.
William H. Trotter, Chestnut Hill.
George S. Morris, Olney.
Thomas D. Keim, Bristol.
Edward Pickering, Jr., Woodbourne, Bucks Co.
Otto McCreary, George School, Newtown.
Albert C. Rutter, Perkasie.
W. H. Buller, Marietta.
William A. Kelker, Harrisburg.
August Koch, Williamsport.

In a limited area two phases of migration may be studied: 1st. The fluctuation in the number of birds both as to individ-

uals and species, and its relations to variation in temperature and meteorological conditions. 2nd. The variation in the time of arrival of the various species at a number of stations of different geographical position both with respect to latitude, altitude and proximity to water courses.

The first line of investigation requires a *daily* estimate of the number of individuals of each species present in a given district, and necessitates extreme care and accurateness on the part of the observer as well as uniformity in the length of time spent in the field and in the extent of country covered each day—requirements almost impossible on the part of the majority of observers. In fact, previous experience has shown us that in the majority of records of this kind, the increased opportunity for observation on Sundays or holidays always makes an apparent increase in the migratory movement on these dates, and while this work was carried on with success by a few observers in 1890 and 1891 it is impractical for general investigations.

Our efforts for the present year have therefore been devoted to recording the "first arrivals" at as many stations as possible. Occasional early arrivals in advance of the bulk of the species are often noted, but no attempt has been made to have the observer note the "arrival of the bulk" since experience has shown such a variation in the interpretation of this term that the records are much less comparable than those of "first arrival."

In tabulating the arrivals of a species at a number of nearby stations a considerable variation in the dates is noticed, due: (1) to the fact that some observers are more regularly afield and detect the presence of a species as soon as it arrives, while others are not out so often or are not as keen observers; and (2), to the fact that each observer covers only a limited area and oftentimes the first individuals of a species may drop into his neighbor's wood several days before any of them find their way into his own ground. These causes of error are found to be largely eliminated by having a number of observers clustered in one vicinity and by combining their records; selecting the earliest date for each species. The resultant record compared with a similar composite record for some other district will give a more

reliable idea of the progress of migration than can be obtained by comparing any two individual records.

II.

In preparing a report on the spring migration of 1902 we have not attempted to publish all the data contained in the individual records, as much of the information can only be utilized when we have records covering several consecutive years, from which we can make comparisons and draw deductions.

For the present we have prepared two tables, the first, comprising observations on all of the ninety birds printed on the lists, as recorded at fourteen stations situated approximately within ten miles of Philadelphia. This gives a summary of observations on migration in what we may call the "Philadelphia District" for the year 1902. To this has been appended a list of other species or additional notes on those contained in the table, as furnished by observers.

Table II. consists of observations on thirty-two of the best known and most easily identified species at sixteen stations outside the ten-mile circle, compared with the observations within that district which have in this table been combined in the way above described into four sections, as follows:

I. Moorestown, N. J.

II. Tinicum, Swarthmore, Lansdowne and Mt. Moriah, Pa.

III. West Fairmount Park, Ardmore, Haverford and Bryn Mawr, Pa.

IV. Germantown, Chestnut Hill and Olney, Pa.

Haddonfield, N. J., would have formed another section but the observations from there were not sufficiently complete to warrant their use in this table.

The location of most of the stations may be seen on the map accompanying Table II. By studying the tables a pretty accurate idea of the time of arrival of the various species may be obtained, especially in the Philadelphia district where so many observers have been in the field. So far as comparisons are concerned, however, results can only be regarded as tentative until verified by the records of several

years. Some conclusions however seem obvious and are of considerable interest.

Comparisons of the Four Local Sections.—As explained above it is reasonable to suppose that the first individuals of a species are likely to reach such closely situated stations as Bryn Mawr, Haverford, Ardmore and West Park on the same day, even though through force of circumstances the observers at these stations were not all able to record the bird on that day, consequently by taking the earliest date recorded at any one of these stations we will probably have the date of the appearance of that bird within the circle bounding these localities. For instance we have the Catbird reported from these four stations on April 24, April 30, April 27 and May 1. The Bryn Mawr date April 24, being the earliest, is no doubt the first appearance of the species in this section, while the other dates indicate either the fact that the observers at these stations were unable to make a thorough search for birds on the 24th, or that the *earliest* flight of Catbirds did not visit the limited area covered by their observations. If we now examine the dates for the Catbird in the section including Tinicum, Swarthmore, Lansdowne and Mt. Moriah, we find the dates to be April 26, April 23, April 26, May 2; the earliest date for the section being the Swarthmore one April 23; a very close coincidence with the date for the section just north, which we have shown to be April 24.

Considering now the dates of arrival of the Brown Thrasher, we have within the Philadelphia district records from twelve stations as follows: April 22 (2), April 23, April 24 (4), April 25, April 26 (2), April 27 and May 1, a diversity of ten days; combining these into the four sections we have Moorestown section, April 22; Swarthmore section, April 22; Ardmore section, April 23; Olney section, April 24; a diversity of only two days, from which we may infer that the first Thrashers reached the Philadelphia district on April 22, appearing at points in the low grounds along the Delaware from Swarthmore to Moorestown, and the next day or the day following reached the higher ground north of the city and the headwaters of Cobb's and Darby creeks.

Comparing now the arrivals of twenty-six species which are

recorded from all four sections we find that the sections stand as follows:

	Swarthmore.	Moorestown.	Ardmore.	Olney.
First . .	14	10	4	6
Second .	7	7	5	5
Third . .	3	2	11	7
Fourth .	2	7	6	8

That is to say the Swarthmore section was the first to report fourteen of the twenty-six species, the second to report seven, the third to report three and the last to report two, etc. If we should give a rank of 26 to the station which reported all the species first, then the four sections would have the relative rating of Swarthmore 45, Moorestown 58, Ardmore 71, Olney 69. In other words the average time of arrival of birds is earliest in the southeastern portion of the Philadelphia district in the low grounds, and the majority of the species push northeast along the river reaching the point where it enters the district usually a little before any of the individuals push back into the higher ground of the Ardmore and Olney sections, in which the relative time of arrival averages about the same.

In the species of which we have reason to believe the observations are most accurate we find the difference of arrival in any two sections only a matter of one or two days, and in some species there is little doubt but that individuals reached every part of the Philadelphia circle on the same day.

When we come to make comparisons among the stations outside the Philadelphia circle our deductions are extremely tentative owing to the fact that we have as a rule only one observer at each station and many of the records are admittedly defective. The indications are however that Concordville records average earlier than either Kennett Square, Westtown, or Coatesville, and that the last three are about the same, which would indicate a migration up the Brandywine valley. It would also seem that arrivals at such extreme points as Plainfield, N. J., and George School, Pa., averaged about three days later than at Moorestown, N. J., but it will be necessary to take averages for a number of years to render such comparisons of much value,

especially as some species arrived at all these points named on the same day.

Compared with the spring migration of 1901 with its cool weather and almost constant rain, the movement of 1902 was decidedly earlier. Taking fifteen of the most familiar species recorded at four stations in the Philadelphia district last year, and comparing with the 1902 dates, we find them earlier in every instance but one.

One averaged two days earlier, two averaged four days earlier, one five days earlier, four six days earlier, two seven days earlier, three eight days earlier, and one nine days earlier, while the Phoebe averaged seven days *later* than in 1901. While these are averages, the fourteen earlier birds were actually earlier at each station in 1902, while the Phoebe was later at each station.

	Rancocas, N. J.	Moorestown, N. J.	Haddonfield, N. J.	Tinicum, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Mt. Moriah, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Chestnut Hill, Phila.	Olney, Phila.
Canada Goose	.....	Apr. 1	.....	Feb. 27	Apr. 12	Apr. 12	.....	.....	.....	.....	.....	.....	.....	Feb. 20
Green Heron	.....	Apr. 22	.....	.....	May 2	May 4	.....	.....	Apr. 27	.....	.....	.....	.....	Apr. 28
Night Heron	.....	Apr. 13	.....	Mar. 29	.....	.....	Apr 22	.....	Apr. 22	.....	.....	.....	.....	Apr. 10
Spotted Sandpiper	.....	Apr. 24	Apr. 27	May 6	Apr. 7	Apr. 30	May 14	.....	May 4	.....	.....	May 4	May 7	
Solitary Sandpiper	.....	Apr. 30	.....	.....	May 4	.....	.....	.....	May 4	.....	.....	May 4	.....	
Killdeer	.....	Mar. 2	.....	Mar. 28	Apr. 13	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 16
Dove	Mar. 30	Mar 16	.....	.....	.....	Apr. 20	.....	.....	Apr. 6	.....	.....	Apr. 14	Apr. 20	Mar. 15
Osprey	Mar. 31	Mar. 22	.....	Apr. 11	Apr. 12	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 17
Turkey Vulture	.....	Apr. 6	.....	Apr. 26	Mar. 9	Mar. 14	.....	.....	Mar. 13	.....	.....	Apr. 18		
Yellow-billed Cuckoo	.....	May 12	.....	May 14	May 24	.....	.....	.....	May 10	May 17	May 12	.....	.....	May 2
Black-billed Cuckoo	.....	.....	.....	.....	May 1	May 11	.....	.....	.....	.....	May 23			
Kingfisher	.....	Apr. 13	.....	Mar. 28	Apr. 1	Apr. 23	.....	.....	Apr. 13	.....	.....	.....	. .	Mar. 12
Yellow-bellied Sapsucker	.....	.....	.....	.....	Apr. 12	.....	.....	.....	.....	.....	.....	Apr. 12	.....	Mar. 22
Red-headed Woodpecker	.....	.....	Mar. 9	.....	.....	Apr. 28	.....	.....	Apr. 5	.....	.....	Apr. 25	May	
Flicker	.....	.....	.....	Feb. 11	Mar. 9	Feb. 27	Feb. 24	Mar. 4	Mar. 23	Apr. 14	Apr. 17	.....	Mar. 23	Feb. 15
Whip-poor-Will	.....	May 18	.....	.....	Apr. 23	Apr. 22	.....	.....	May 2	.....	.....	Apr. 24	.....	Apr. 28
Nighthawk	.....	.....	.....	May 24	May 18	.....	.....	.....	Apr. 30	May 17	May 17	May 12		
Chimney Swift	Apr. 24	Apr. 21	.....	Apr. 26	Apr. 22	Apr. 22	.....	.....	Apr. 24	Apr. 19	Apr. 27	Apr. 22	Apr. 22	Apr. 23	Apr. 22
Hummingbird	May 17	May 10	.....	.....	May 7	May 8	May 10	May 6	Apr. 28	May 12	May 3	May 4	May 8	
Kingbird	.....	May 4	.....	May 7	Apr. 23	.....	.....	Apr. 27	May 4	.....	.....	.....	May 1	May 2
Crested Flycatcher	May 1	Apr. 27	Apr. 27	May 2	Apr. 30	May 2	May 3	May 8	May 1	May 3	May 9	May 4	May 2	
Phoebe	Mar. 30	Mar. 30	.....	Mar. 21	Mar. 23	May 16	Mar. 25	Mar. 23	Mar. 23	.....	Apr. 12	Apr. 23	Mar. 23	Apr. 5

	Rancocas, N. J.	Moorestown, N. J.	Haddonfield, N. J.	Tinicum, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Mt. Moriah, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Chestnut Hill, Phila.	Olney, Phila.
Wood Pewee	May 13	May 2	.....	May 18	May 9	May 6	May 5	May 15	May 18	.....	May 3	May 15	May 11	May 3
Green-crested Flycatcher	.....	.....	.....	.....	May 13	May 14	May 15	May 15	May 17	.....	.....	.....	May 17	
Least Flycatcher	May 1	May 2	.....	.....	May 2	May 1	May 9	.....	Apr. 27	.....	.....	.....	May 1	
Bobolink	.....	.....	.....	.....	May 9	.....	.....	.....	May 3	.....	.....	May 12	May 9	
Cowbird	.....	.....	.....	.....	Mar. 28	.....	.....	May 4	Apr. 13	.....	.....	Apr. 24	.....	Apr. 7
Red-winged Blackbird	Apr. 8	Mar. 1	.....	Feb. 28	Mar. 7	.....	.....	.....	Mar. 7	.....	.....	.....	Mar. 14	Mar. 3
Meadowlark	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 23	
Orchard Oriole	.....	May 1	.....	May 4	.....	May 7	.....	.....	May 2	May 7	.....	.....	May 8	May 5
Baltimore Oriole	.....	May 2	May 8	May 11	May 2	May 3	.....	.....	May 3	May 6	May 9	May 4	May 5	May 6
Rusty Blackbird	.....	Mar. 13												
Purple Grackle	Mar. 1	Mar. 1	.....	Mar. 11	Feb. 27	Feb. 24	Mar. 1	Feb. 28	Mar. 1	Feb. 28	.....	.....	Mar. 9	Feb. 21
Vesper Sparrow	.....	Apr. 13	.....	.....	Apr. 5	.....	.....	.....	Mar. 24	.....	.....	.....	.....	Mar. 25
Savanna Sparrow	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 1	.....	.....	.....	.....	Mar. 20
Grasshopper Sparrow	Apr. 27	Apr. 22	Apr. 26	.....	.....	.....	.....	.....	May 4	.....	.....	.....	May 4	
Chipping Sparrow	Mar. 30	Mar. 29	.....	.....	Apr. 13	Apr. 18	Apr. 17	.....	Mar. 29	Apr. 17	Apr. 12	.....	Mar. 29	Apr. 19
Field Sparrow	Mar. 30	Mar. 16	.....	.....	Apr. 3	Mar. 21	Mar. 25	Mar. 23	Mar. 29	.....	Apr. 12	.....	Mar. 28	
Swamp Sparrow	.....	Apr. 13	.....	Apr. 26	Apr. 20	.....	Mar. 22	.....	Apr. 25	.....	.....	May 4		
Fox Sparrow	Mar. 5	Mar. 10	.....	Mar. 14	Mar. 8	Mar. 22	Mar. 22	Mar. 6	.....	.....	.....	.....	Mar. 23	Feb. 20
Chewink	Apr. 26	Apr. 22	.....	Mar. 14	Apr. 20	Apr. 19	Apr. 28	Mar. 11	Apr. 26	.....	Apr. 17	Apr. 24	Apr. 26	Apr. 6
Rose-breasted Grosbeak	May 5	May 4	May 2	.....	May 7	May 5	.....	.....	May 3	.....	.....	May 3	.....	May 10
Indigobird	.....	May 3	.....	May 9	May 1	May 1	May 8	May 14	May 10	.....	May 14	May 8	May 9	May 5
Scarlet Tanager	May 5	May 2	.....	May 7	May 1	May 2	May 14	May 14	May 4	.....	May 9	.....	May 11	May 2

	Rancocas, N. J.	Moorestown, N. J.	Haddonfield, N. J.	Tinicum, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Mt. Moriah, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Chestnut Hill, Phila.	Olney, Phila.
Purple Martin	.....	Apr. 7	Apr.27											
Cliff Swallow.														
Barn Swallow	.....	Apr.13	Apr.27	.....	Apr.12	May 4	.....	Apr.13	Apr.25	Apr.27	.....	Apr.19	Apr.17	
Tree Swallow	.....	Apr.13	.....	Apr.11	.....	Apr.28	.....	Apr.13	May 14	.....	.....	May 2	.....	Apr.24
Bank Swallow	.....	.....	.....	.....	Apr.20	.....	.....	.....	.....	.....	.....	May 4	.....	Apr.20
Rough-winged Swallow	.....	.....	.....	.....	.....	.....	May 2	.....	Apr.25	.....	.....	.....	May 1	
Cedar Bird	.....	Apr.27	.....	.....	May 8	.....	.....	.....	May 12	May 26				
Red-eyed Vireo	May 9	May 1	May 14	May 6	May 2	May 6	May 7	May 4	May 8	May 8	May 3	May 13	May 9	May 1
Warbling Vireo	May 1	May 4	May 1	.....	May 2	.....	.....	May 15	May 4	.....	.....	May 6	May 11	
Yellow-throated Vireo	May 6	Apr.28	.....	.....	May 1	Apr.30	.....	May 4	May 2	May 9	.....	.....	.....	Apr.28
Solitary Vireo	.....	.....	.....	.....	Apr.26	Apr.23	May 2	.....	May 1	.....	.....	.....	.....	May 3
White-eyed Vireo	May 2	Apr.26	Apr.26	.....	May 4	May 5	.....	May 4	Apr.27					
Black and White Warbler	Apr.27	Apr.22	May 3	Apr.30	Apr.22	Apr.22	Apr 25	May 1	Apr.28	May 2	May 3	May 3	Apr.26	Apr.22
Worm-eating Warbler	.....	May 14	.....	.....	May 7	May 7	May 15	.....	May 10	May 17				
Blue-winged Warbler	May 9	May 3	May 2	May 11	May 3	May 3	May 15	.....	May 4	.....	.....	.....	May 8	
Parula Warbler	May 1	Apr.26	.....	Apr.20	Apr.30	Apr.30	May 6	.....	May 2	May 12	May 3	May 4	May 8	May 6
Yellow Warbler	Apr.28	Apr.23	Apr.27	May 11	May 2	May 1	May 5	.....	May 2	.....	.....	May 4	May 8	
Black-throated Blue Warbler.	May 10	May 3	.....	May 7	Apr.25	May 1	May 3	May 6	May 1	.....	May 9	May 3	May 11	May 7
Myrtle Warbler	Apr.28	Apr.22	.....	Apr.26	May 2	Apr.24	Apr.22	May 4	Apr.13	.....	.....	.....	.....	Mar.22
Magnolia Warbler	May 10	May 13	.....	May 9	May 7	May 8	May 15	May 6	May 2	.....	May 9	May 4	May 9	May 7
Chestnut-sided Warbler	May 1	May 6	.....	.....	May 7	May 7	May 4	.....	May 3	May 13	May 3	May 3	May 8	May 2
Black-poll Warbler	May 12	May 12	.....	.....	May 10	May 8	.....	May 20	May 10	May 20	May 14	.....	May 14	
Blackburnian Warbler	May 10	May 12	May 13	.....	May 1	May 3	.....	.....	May 3					

	Rancocas, N. J.	Moorestown, N. J.	Haddonfield, N. J.	Tinicum, Pa.	Swarthmore, Pa.	Lansdowne, Pa.	Mt. Moriah, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Chestnut Hill, Phila.	Olney, Phila.
Black-throated Green Warbler.	May 1	May 1	.....	Apr.30	May 1	Apr.30	.....	May 1	May 1	.....	.....	.....	May 2	
Pine Warbler	.....	Apr.25												
Yellow Palm Warbler	.....	May 3	.....	Apr.26	Apr.23	May 4	Apr.25	.....	May 2					
Prairie Warbler	Apr.29	Apr.26	.....	... .	Apr.30	.....	May 4	.....	May 4					
Oveo-bird	Apr.26	May 7	Apr.26	May 2	Apr.26	Apr.30	Apr.28	May 1	Apr.27	.....	May 3	Apr.30	Apr.27	
Water Thrush	.....	Apr.23	Apr.27	.....	May 3	Apr.26	May 4	.....	May 10	.....	.....	.....	May 11	
Kentucky Warbler	.....	.....	.....	.....	May 1	May 1	May 5	May 6	May 2	.....	.....	May 16	May 9	May 8
Maryland Yellow-throat	Apr.27	Apr.23	Apr 26	Apr.26	Apr.27	Apr.26	May 3	May 1	May 1	.....	May 3	May 4	May 4	
Chat	.....	May 3	.....	May 11	May 1	May 1	May 9	May 15	May 4	.....	.....	.....	May 9	May 10
Canada Warbler	May 18	May 12	.....	May 13	May 10	May 8	May 8	May 15	May 10	.....	May 9	May 11	May 14	May 2
Redstart	May 11	May 1	.....	Apr.30	Apr.22	May 4	May 3	May 1	May 2	.....	May 9	Apr.19	May 8	Apr.28
Cat Bird	Apr.27	Apr.26	.....	Apr.26	Apr.23	Apr.26	May 2	May 1	Apr.27	Apr.30	Apr.24	Apr.29	May 2	Apr.26
Brown Thrasher	Apr.28	Apr.22	Apr.26	Apr.26	Apr.22	Apr.24	Apr.25	Apr.23	Apr.24	Apr.27	Apr.24	Apr.24	May 1	
House Wren	.....	Apr.23	.....	May 2	May 11	Apr.24	.....	May 4	Apr.27	Apr.30	May 3	Apr.25	May 1	May 6
Large-billed Marsh Wren	.....	.....	.....	May 15										
Ruby-crown Kinglet	.....	Apr.17	.....	.....	Apr.25	Apr.26	.....	.....	Apr.27	.....	.....	.....	May 1	
Wood Thrush	May 1	Apr.27	.....	May 6	Apr.23	Apr.23	Apr.28	May 1	Apr.27	May 1	May 3	Apr.28	May 2	Apr.30
Wilson's Thrush	May 11	May 2	.....	May 21	May 1	May 1	Apr.30	May 1	May 3	May 6	May 3	May 11	May 2	May 2
Gray-cheeked Thrush	.....	.....	.....	.....	.....	May 8	.....	.....	Apr.27	.....	.....	May 12	.....	May 10
Olive-backed Thrush	May 10	May 12	.....	.....	.....	May 6	.....	.....	Apr.27	.....	May 9	.....	May 17	May 5
Hermit Thrush	Apr.19	Apr.17	.....	.....	Apr.13	Apr.17	Apr.17	.....	Apr.15	.....	Apr.17	.....	Apr.16	Apr. 7
Robin	.....	Mar. 1	.....	Feb. 28	Feb. 28	Feb. 24	Mar. 3	Mar. 4	Mar. 2	Feb. 28	.....	.....	Feb. 28	Feb. 15
Bluebird	Feb. 11	.....	.....	Mar. 11	Mar. 1	Jan. 18	Mar. 10	Mar. 10	Jan. 18	.....	.....	.....	Mar. 23	

	Philadelphia District.																				
	Moorestown Sect.	Swarthmore Sect.	Ardmore Sect.	Olney Sect.	Cape May, N. J.	Kennett Square, Pa.	Concordville, Pa.	Lenape, Pa.	Westtown, Pa.	Coatesville, Pa.	Downingtown, Pa.	Berwyn, Pa.	George School, Pa.	Perkasie, Pa.	Rancocas, N. J.	Yardville, N. J.	Paterson, N. J.	Plainfield, N. J.	Marietta, Pa.	Williamsport, Pa.
Flicker	.....	.....	.....	.....	.....	Mar. 18	.....	.....	.....	Mar. 22	Mar. 28	.....	Mar. 2	Mar. 27	.....	.....	.....	.....	Apr. 2	
Whip-poor-will	May 18	Apr. 22	May 2	Apr. 24	May 15	May 4	.....	.....	.....	May 9	.....	May 5	May 2	May 3	.....	Apr. 22	.....	Apr. 26	May 1	Apr. 22
Nighthawk	.....	May 18	May 12	.....	.....	.....	.....	May 7	.....	May 18	May 6	.....	May 7	May 4	.....	.....	.....	.....	May 17	May 3
Chimney Swift	Apr. 21	Apr. 22	Apr. 19	Apr. 22	Apr. 27	Apr. 22	Apr. 20	.....	Apr. 22	Apr. 23	Apr. 12	.....	Apr. 16	Apr. 23	Apr. 24	Apr. 24	Apr. 23	Apr. 25	Apr. 19	May 4
Hummingbird	May 10	May 7	Apr. 28	May 4	May 2	May 11	May 11	.....	.....	May 17	May 16	.....	.....	May 24	May 17	May 5	May 5	May 16	May 9	May 13
Kingbird	May 4	Apr. 23	May 4	May 1	Apr. 30	Apr. 30	Apr. 28	May 1	Apr. 27	Apr. 27	Apr. 19	May 7	May 1	May 8	.....	May 4	May 1	May 2	Apr. 26	May 3
Crested Flycatcher	Apr. 27	Apr. 30	May 1	May 2	.....	May 3	May 3	May 3	Apr. 26	May 9	May 2	Apr. 28	May 2	.....	May 1	May 7	May 3	Apr. 27	Apr. 19	May 13
Phoebe	Mar. 30	Mar. 16	Mar. 23	Mar. 23	.....	.....	.....	.....	Mar. 22	Mar. 13	Mar. 25	Mar. 23	Mar. 15	Apr. 5	Mar. 30	Mar. 17	Mar. 25	Mar. 9	.....	Apr. 15
Bobolink	.....	May 9	May 3	May 9	.....	.....	May 11	.....	May 1	.....	May 5	.....	May 7	.....	.....	.....	.....	.....	May 1	
Cowbird	.....	Mar. 28	Apr 13	Apr. 7	Mar. 15	Mar. 20	Feb. 3	.....	.....	Mar. 25	Apr. 12	Mar. 24	Mar. 21	Apr. 25	.....	.....	Mar. 20	Mar. 16	Apr. 7	Apr. 15
Red-winged Blackbird	Mar. 1	Feb 28	Mar. 7	Mar. 3	Mar 15	Mar. 6	Feb 20	.....	Mar. 14	.....	Mar. 3	.....	Mar. 1	Apr. 5	Apr. 8	.....	Mar. 7	Mar. 1	Apr. 3	Apr. 24
Baltimore Oriole	May 2	May 2	May 3	May 4	May 2	May 1	May 6	May 1	May 5	May 3	May 1	May 6	May 6	May 4	.....	May 6	May 1	May 4	May 3	May 3
Purple Grackle	Mar. 1	Feb. 24	Feb. 28	Mar. 21	Mar. 15	Feb. 27	Feb. 28	.....	Mar. 2	.....	Feb. 26	Feb. 27	Mar. 12	Mar. 1	Mar. 1	Feb. 28	Feb. 15	Mar. 1	Mar. 25	Mar. 17
Chipping Sparrow	Mar 29	Apr. 13	Mar. 29	Mar. 29	Mar. 30	Apr. 16	Apr. 14	.....	Apr. 19	Apr. 11	Apr. 1	Mar. 24	Apr. 11	Apr. 16	Mar. 30	Apr. 13	Apr. 2	Apr. 6	Apr. 12	Apr. 19
Chewink	Apr. 22	Apr. 19	Apr. 17	Apr. 6	Mar. 10	Apr. 27	Apr. 26	.....	May 1	Apr. 18	Apr. 20	Apr. 2	Apr. 25	May 1	Apr 26	.....	Apr. 30	Apr. 20	Apr. 19	Apr. 30
Indigobird	May 3	May 1	May 10	May 5	.....	May 8	May 7	.....	Apr. 30	May 8	May 3	May 11	May 12	May 7	.....	May 10	May 6	May 14	May 17	May 31
Scarlet Tanager	May 2	May 1	May 4	May 2	.....	May 3	May 2	May 3	May 6	May 8	May 2	May 2	May 6	May 8	May 5	May 11	May 4	May 7	May 17	May 8
Purple Martin	Apr. 7	Apr. 27	.....	.....	May 2	.....	.....	Mar. 30	.....	Apr. 19	Apr. 2	Apr. 14	May 13	Apr. 21	.....	.....	.....	Apr 20		
Barn Swallow	Apr. 13	Apr. 12	Apr. 13	Apr. 17	Apr 24	Apr 13	.....	Apr. 14	May 4	Apr 20	Apr. 20	Apr. 24	Apr. 2	Apr. 12	.....	Apr. 27	Apr. 15	Apr. 25	.....	Apr. 30
Red-eyed Vireo	May 1	May 2	May 3	May 1	.....	May 4	May 2	May 6	May 7	May 8	Apr. 29	May 3	May 3	.....	May 9	Apr. 27	May 1	May 7	Apr. 26	May 6
Black and White Warbler	Apr. 22	Apr. 22	Apr. 28	Apr. 22	.....	.....	Apr. 26	.....	Apr 30	Apr. 30	May 1	Apr 26	Apr. 28	Apr. 27	Apr. 27	May 4	.....	Apr. 26	Apr. 19	May 3
Chestnut-sided Warbler	May 1	May 4	May 3	May 3	.....	May 8	May 6	.....	May 4	May 4	May 6	.....	May 3	.....	May 1	.....	May 11	May 7	.....	May 3
Oven-bird	Apr. 26	Apr. 26	Apr. 27	Apr. 27	.....	May 3	Apr. 26	.....	May 1	Apr. 26	May 1	May 1	Apr. 26	May 3	Apr. 26	May 8	Apr. 30	Apr. 27	.....	Apr. 30
Maryland Yellow throat	Apr. 23	Apr. 26	May 1	May 4	.....	Apr. 27	Apr. 30	.....	Apr. 27	.....	Apr. 26	Apr. 30	Apr. 27	May 4	Apr. 27	May 2	.....	May 2	May 24	May 3
Chat	May 3	May 1	May 4	May 9	.....	.....	.....	.....	May 10	May 4	May 3	May 6	May 4	.....	.....	.....	May 7	May 4	May 10	May 8
Catbird	Apr. 26	Apr 23	Apr. 24	Apr. 26	Apr 24	Apr. 29	Apr. 26	Apr. 23	Apr. 27	Apr. 27	Apr. 30	Apr 29	May 1	Apr. 26	Apr. 27	May 3	Apr. 30	Apr. 27	Apr. 28	May 6
Brown Thrasher	Apr. 22	Apr. 22	Apr. 23	Apr. 24	Apr. 24	Apr. 27	Apr. 25	Apr. 17	Apr. 28	Apr. 27	Apr. 24	Apr. 18	Apr. 22	Apr. 26	Apr. 28	May 2	Apr. 30	Apr. 25	Apr. 19	Apr. 30
House Wren	Apr. 23	Apr. 24	Apr. 27	Apr. 25	May 5	Apr. 27	Apr. 27	Apr. 30	May 1	Apr. 30	Apr. 30	Apr. 28	May 3	May 2	.....	Apr. 27	Apr. 25	May 2	Apr. 14	May 7
Wood Thrush	Apr. 27	Apr 23	Apr. 27	Apr. 28	.....	May 2	Apr. 30	May 3	Apr. 27	Apr. 27	May 1	May 3	Apr. 28	May 2	May 1	May 11	Apr. 30	Apr. 25	.....	May 6
Hermit Thrush	Apr. 17	Apr. 13	Apr. 15	Apr. 7	.....	.....	.....	.....	Apr. 14	.....	Apr. 20	.....	Apr. 6	.....	Apr. 19	May 5	.....	Apr. 11	Apr. 12	May 13
Robin	Mar. 1	Feb. 24	Feb. 28	Feb. 15	.....	Feb. 28	.....	.....	.....	Mar. 2	.....	Mar. 8	Mar. 1	May 12	Mar. 13	.....	Mar. 1	Mar. 17	Feb. 22	Mar. 25	Mar. 8
Bluebird	.....	.....	.....	.....	.....	.....	Feb. 26	.....	Mar. 2	.....	Mar. 5	Feb. 27	Mar. 1	Mar. 23	Feb. 11	Mar. 1	Feb. 5	.....	Mar. 12	Mar. 2

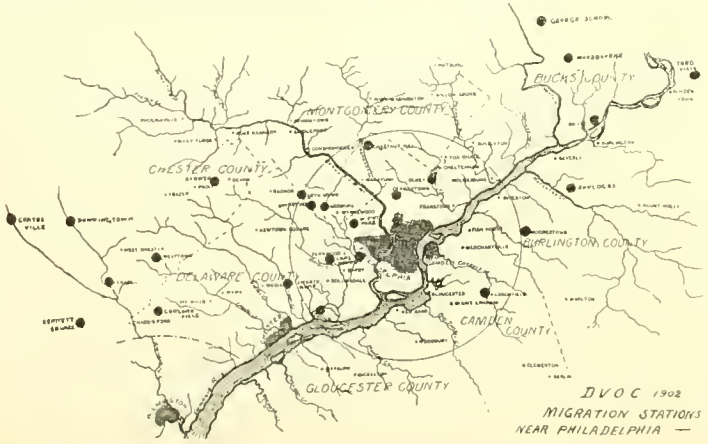

TABLE II.

SPRING MIGRATION, 1902.

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES IN THE FOUR PHILADELPHIA SECTIONS AND AT SIXTEEN STATIONS OUTSIDE OF THE PHILADELPHIA CIRCLE.

List of other Species Reported by Observers during 1902.

Holboell's Grebe, *Colymbus holboellii*. One killed at Tinicum, Pa., April 7 (*L. I. Smith*).

Horned Grebe, *C. auritus*, Tinicum, April 7 (*Smith*).

Pied-billed Grebe, *Podilymbus podiceps*, Tinicum, March 31 (Smith). Berwyn, Pa., Sept. 25 (*Burns*). George School, Pa., April 14 (*McCreary*).

Herring Gull, *Larus argentatus*, remained on the East Park Reservoir, Philadelphia, until April 12 (*Prendergast*).

Ring-billed Gull, *Larus delawarensis*, Tinicum, April 12.

Bonaparte's Gull, *L. philadelphia*, Tinicum, May 5 (*L. I. Smith*).

Cormorant, *Phalacrocorax dilophus*, Tinicum, May 5 and May 31 (*L. I. Smith*).

Merganser, *M. americanus*, Tinicum, January to early part of March (*Smith*), East Park Reservoir, to April 12 (*Prendergast*).

Red-breasted Merganser, *M. serrator*, Tinicum, March 29 (*Smith*).

Mallard, *Anas boschas*, Tinicum, last week of January, Feb. 28 (*Smith*).

Black Duck, *A. obscura*, Tinicum, January to May 15 (*Smith*).

Red-legged Black Duck, *A. obscura rubripes*, Tinicum, last seen April 12 (*Smith*).

Baldpate, *Mareca americana*, Tinicum, last seen March 8 (*Smith*).

Green-winged Teal, *Nettion carolinensis*, Tinicum, March 23.

Blue-winged Teal, *Querquedula discors*, Tinicum, April 16.

Pintail, *Dafila acuta*, Tinicum, Feb. 28.

Red head, *Aythya americana*, Tinicum, March 7.

Greater Scaup, *Aythya marila*, Tinicum, March 23.

Lesser Scaup, *A. affinis*, Tinicum, April 15.

Golden-eye, *Clangula c. americana*, Tinicum, April 12.

Old Squaw, *Harelda hyemalis*, Tinicum, May 3.

Ruddy Duck, *Erismatura jamaicensis*, Tinicum, April 16 (*all Smith*).

American Bittern, *Botaurus lentiginosus*, Moorestown, N. J., April 20(*Evans*). Deserted nest, Cape May, N.J., June 1(*Hand*).

Least Bittern, *Ardetta exilis*, Bristol, Pa., three on May 25 (*Keim*); Paterson, N. J., May 15 (*J. H. Clark*).

Great Blue Heron, *Ardea herodias*, arrived at Plainfield, N. J., April 10 (*Miller*); Swarthmore, Pa., April 13 (*Hannum*); Moorestown, N. J., April 17 (*Evans*); Lenape, Pa., April 16 (*Trimble & Carter*); Yardville, N. J., April 24 (*Allison*); George School, Pa., May 4 (*McCreary*).

White Egret, *Ardea egretta* (see pp. 15–21).

Little Blue Heron, *A. cœrulea* (see pp. 15–21).

Night Heron, *Nyctieorax n. naevius*. One shot at Tinicum, February 15 (*Smith*); specimen in collection Academy Natural Sciences, Philadelphia.

King Rail, *Rallus elegans*. One deserted nest, Ninety-second street marsh, June 8 (*Stone*). This locality, formerly such a resort for rails, seems to have been nearly deserted owing to draining (*Reed, Hughes & Stone*).

Virginia Rail, *R. virginianus*. Two nests, Cape May, N. J., June 1 (*Hughes*).

Woodcock, *Philohela minor*, Moorestown, N. J., March 9 (*Evans*); Plainfield, N. J., March 16 (*Miller*).

Wilson's Snipe, *Gallinago delicata*, Bristol, Pa., April 13 (*Keim*); George School, Pa., April 7 (*McCreary*); Plainfield, N. J., March 2 (*Miller*).

Least Sandpiper, *Tringa minutilla*, Cape May, N. J., Apr. 30 (*Hand*).

Yellow-legs, *Totanus melanoleucus*, Cape May, N. J., April 2 (*Hand*); Plainfield, N. J., May 25 (*Miller*).

Curlew, *Numenius hudsonicus*, Cape May, N. J., April 30 (*Hand*).

Semipalmated Plover *Aegialitis semipalmata*, Cape May, N. J., May 1 (*Hand*).

Upland Plover, *Bartramia longicauda*, Lenape, Pa., April 21 (*Carter & Trimble*); Coatesville, Pa., May 18 (*H. E. Stone*).

Bobwhite, *Colinus virginianus*, Cape May, N. J., a great migration; Oct. 21, saw a flock at Cape May Point, flying over the water a mile from any feeding ground; another flock was observed to run to the water's edge and take flight apparently for Delaware. There is always a large migration about the first week in October (*Hand*). A brood was raised near Bristol, Pa., for the first time in many years, and one bird was seen May 25 (*Keim*).

Sparrow Hawk, *Falco sparverius*, recorded all winter at Plainfield, N. J. (*Miller*), and at all stations farther south.

Broad-winged Hawk, *Buteo latissimus*, Plainfield, N. J., Apr. 27 (*Miller*).

Black Hawk, *Archibuteo lagopus sancti-johannis*, Plainfield, N. J., Feb. 9, 12 and 16 (*Miller*).

Marsh Hawk, *Circus hudsonius*, Plainfield, N. J., March 16 (*Miller*). Observed once during the winter at Westtown, Pa.

Bald Eagle, *Haliæetus leucocephalus*, above Riverton, N. J., Feb. 20 (*H. G. Taylor*).

Barred Owl, *Syrnium nebulosum*, Audubon, N. J., Dec. 27, 1901 (*Rhoads*).

Horned Owl, *Bubo virginianus*, Lansdowne, Mar. 11 (*White*); Pine Barrens, Burlington Co., N. J., Aug. 13, 1902 (*Stone & Rehn*).

Snowy Owl, *Nyctea nyctea*, one shot at Forty-seventh street and Baltimore avenue, West Philadelphia, Jan. 7 (*Stone*) and another on the New Jersey "Plains" Christmas week, 1901.

Kingfisher, *Ceryle alcyon*, one all winter at Olney (*Morris*), and at Plainfield, N. J. (*Miller.*)

Hairy Woodpecker, *Dryobates villosus*. A pair nested this year at Chamounix, Fairmount Park (*Carter*). It is a rare bird at all seasons within the city limits.

Yellow-bellied Sapsucker, *Sphyrapicus varius*, Plainfield, N. J., one seen Feb. 23, the second winter record for this station (*Miller*).

Red-headed Woodpecker, *Melanerpes erythrocephalus*, Williamsport, Pa., May 6; very rare at this locality (*Koch*). One was seen repeatedly near Angora, Del. Co., Pa., and probably nested close to the city line (*Stone*).

Flicker, *Colaptes auratus luteus*, Olney, Phila., off and on throughout the winter (*Morris*). Woodbourne, Bucks Co., Pa., all winter (*Pickering*).

Yellow-bellied Flycatcher, *Empidonax flaviventris*, Plainfield, N. J., May 11 (*Miller*); George School, Pa., May 14 (*McCreary*).

Alder Flycatcher, *E. traillii alnorum*, Plainfield, N. J., May 25, breeds (*Miller*).

Horned Lark, *Otocoris alpestris*. Regular winter visitor at

Lenape, Pa. (*Carter*), and Westtown, Pa. (*J. K. Brown, Jr.*); irregular at Olney (*Morris*) and Conshohocken (*Wright*). Observed in numbers, Feb. 23, after severe sleet storm, at Olney, Pa. (*Morris*); Downingtown, Pa. (*Pennell*), and Plainfield, N. J. (*Miller*); also at Perkasie, Pa., during the winter (*Rutter*).

Prairie Horned Lark, *O. a. praticola*, a few, with the other at Plainfield, N. J. (*Miller*).

Grackle, *Quiscalus quiscula*. One bird remained until Jan. 1 at Olney (*Morris*).

Rusty Blackbird, *Scolecophagus carolinus*, Plainfield, N. J., Jan. 12 (3); Jan. 19 (flock of 45) (*Miller*).

Red-winged Blackbird, *Agelaius phoeniceus*. Males arrived at Olney, March 3, but no females till April 9 (*Morris*).

Meadow Lark, *Sturnella magna*, observed in winter at most localities. Marietta, Pa. (*Buller*); Plainfield, N. J. (*Miller*); Woodbourne, Pa. (*Pickering*); Westtown, Pa. (*Brown*).

Cow Bird, *Molothrus ater*. Egg found in Wood Thrush's nest May 18, hatched May 31 (*Palmer*), Swarthmore.

Purple Finch, *Carpodacus purpureus*. More numerous than usual at Moorestown, N. J. (*Mickle*).

Redpoll, *Acanthis linaria*, a flock of about twenty at Downingtown, Pa., Feb. 24 (*Pennell*).

Pine Finch, *Spinus pinus*. An unusual and well developed migration at Plainfield, N. J., April 26 to May 17 (*Miller*); flocks observed at Moorestown, N. J., April 28 and May 5 (*Mickle*), and at Bridgeton, N. J., May 10 (*Rhoads* and *Stone*) an unusual date for Southern New Jersey.

Snow Flake, *Passerina nivalis*, two at Downingtown, Pa., after the storm, Feb. 23 (*Pennell*); Plainfield, N. J., Feb. 22 (6), Feb. 23 (30) (*Miller*).

Henslow's Sparrow, *Ammodramus henslowii*, see pp. 6–14.

White-throated Sparrow, *Zonotrichia albicollis*, remained till April 27, Berwyn, Pa. (*Burns*); May 2, Mt. Moriah, Pa. (*Owen*); May 4, Bristol, Pa. (*Keim*); May 14, Tinicum (*Smith*). Winters as far north as Plainfield, N. J. (*Miller*).

White-crowned Sparrow, *Z. leucophrys*, Williamsport, May 8 (*Koch*).

Junco, *Junco hyemalis*, till April 26, Swarthmore (*Hannum*).

Swamp Sparrow, *Melospiza georgiana*, all winter at Plainfield, N. J.; unusual (*Miller*).

Towhee, *Pipilo erythrophthalmus*, Jan. 12 and again Jan. 26 at Bristol, Pa. (*Keim*); Wildwood, N. J., March 15 (*Baily*). Males arrived two days ahead of females at Swarthmore (*Hannum*).

Cedarbird, *Ampelis cedrorum*, Plainfield, N. J., Dec. 8 and 25 (*Miller*).

White-eyed Vireo, *V. noveboracensis*. One pair present and evidently nested on Darby Creek near Lansdowne, the first in my experience (*A. J. Pennock*).

Loggerhead Shrike, *Lanius ludovicianus*, Medford, N. J., Aug. 13 (*Stone* and *Rehn*).

Golden-winged Warbler, *Helminthophila chrysoptera*, Swarthmore, Pa., May 1 (*Hannum*); May 10 (4) (*Palmer*); Kennett Square, Pa., May 4 (*C. J. Pennock*); Concordville, Pa., May 4 (*Styer*); Westtown, Pa., May 4 (*Smedley*).

Nashville Warbler, *H. rubricapilla*, Lansdowne, Pa., May 3 (*A. J. Pennock*); Ardmore, Pa., May 2 (*Baily*); Plainfield, N. J., May 4 (*Miller*); Yardville, N. J., May 20 (*Allison*).

Cape May Warbler, *Dendroica tigrina*, Swarthmore, May 1 and 14 (*Hannum*); Williamsport, May 11 (*Koch*).

Bay-breasted Warbler, *D. castanea*, Haddonfield, N. J., May 12 (*Hamlin*); Moorestown, N. J., May 12 (*Mickle*); Swarthmore, Pa., May 14 (*Hannum*); Lansdowne, Pa., May 13 (*White*); Ardmore, Pa., May 10 (*Baily*); Plainfield, N. J., May 11 (*Miller*); Concordville, Pa., May 10 (*Styer*).

Myrtle Warbler, *D. coronata*. Wintered at Plainfield, which is unusual (*Miller*).

Large-billed Water Thrush, *Sciurus motacilla*, Plainfield, N. J., April 20 (*Miller*). One pair evidently nesting York Furnace, Pa., May 31 (*Stone*).

Hooded Warbler, *Wilsonia mitrata*, Lansdowne, Pa., May 14 (*A. J. Pennock*); Germantown, Pa., May 3 (*H. Evans*); Swarthmore, Pa., May 3 (*Hannum* and *Palmer*); Mt. Moriah, Pa., May 3 (*Owen*); Moorestown, N. J , April 22 (*Evans*); Paterson, N. J., May 7 (*Clark*); Concordville, Pa., May 6 (*Styer*); Plainfield, N. J., May 5 (*Miller*).

Wilson's Warbler, *Wilsonia pusilla*, Lansdowne, Pa., May 11 (*A. J. Pennock*); Moorestown, N. J., May 14 (*Evans*); Swarthmore, Pa., May 4 (*Hannum*), May 16 (*Palmer*); Mt. Moriah, May 3 (*Owen*); George School, Pa., May 18 (*McCreary*); Downingtown, Pa., May 16 (*Pennell*); Tinicum, Pa., May 5 (*Smith*).

Titlark, *Anthus pensilvanicus*, Tinicum, Pa., Jan. 12 (18) (*Hannum*); George School, Pa., May 4 (*McCreary*); Plainfield, N. J., March 30 (*Miller*).

Winter Wren, *Olbiorchilus hiemalis*, remained at Swarthmore, Pa., till May 1 (*Hannum*).

Carolina Wren, *Thryothorus ludovicianus*. Winters as far north as Yardville, N. J. (*Allison*), and at Paterson, N. J., two were seen Jan. 26, the first winter record (*Miller*). Observed June 10 at Berwyn, my first record for June (*Burns*). Young left nest at Swarthmore, May 15 (*Trotter*).

Catbird, *Galcoscoptes carolinensis*, Plainfield, N. J., Jan. 5, second winter record (*Miller*); Wildwood, N. J., March 15 (*Baily*).

Red-breasted Nuthatch, *Sitta canadensis*, Tinicum, Pa., May 7 (*Smith*); Ardmore, April 27 (*Baily*).

Tufted Titmouse, *Parus bicolor*, Williamsport, Pa., April 14 (*Koch*); not common so far north.

Hermit Thrush, *Hylocichla guttata pallasii*. Wintered at Plainfield, N. J.; unusual (*Miller*).

Robin, *Merula migratoria*, Olney, Pa., all winter (*Morris*); Plainfield, N. J., one Feb. 1 (*Miller*). Young out of nest and able to fly, May 10, Camden, N. J. (*Stone*).

Bluebird, *Sialia sialis*. Intermittent through February at Olney (*Morris*); Woodbourne, Pa., all winter (*Pickering*); abundant at Kennett Square, Pa., in the fall (*C. J. Pennock*).

Birds that Struck the City Hall Tower, 1902

Mr. Slaughter has again kindly furnished us with his record of the birds killed by striking the city hall tower.

Only five birds representing three species struck during the spring flight, but in the fall there were seventy-three individuals picked up, comprising twenty-three species, making twenty-four species for the year. They were as follows, one individual striking on each day unless otherwise stated :

Spring Migration.—Field Sparrow, April 26, May 5; Maryland Yellow-throat, May 14, May 15; Cat Bird, May 7.

Fall Migration.—Sora Rail, Sept. 26; Grasshopper Sparrow, Sept. 30; Savanna Sparrow, Oct. 1; Indigo-bird, Oct. 1, Oct. 4, Oct. 7 (2); Scarlet Tanager, Sept. 22; Cedar Bird, Oct. 3; Red-eyed Vireo, Sept. 23 (3), Sept. 25, Oct. 2, Oct. 4, Oct. 7, Oct. 8; Black and White Warbler, August 16, Sept. 22, Sept. 26; Parula Warbler, Sept. 23 (3); Sept. 30 (2), Oct. 1, Oct. 3 (2), Oct. 4, Oct. 7 (2), Oct. 8, Oct. 13; Black-throated Blue Warbler, Oct. 7; Black-throated Green Warbler, Sept. 24, Oct. 8; Yellow Palm Warbler, Sept. 29; Myrtle Warbler, Oct. 4, Oct. 10: Maryland Yellow-throat, August 11, August 13, August 16, August 18, Sept. 5, Sept. 22, Sept. 25 (4), Sept. 29 (4), Sept. 30 (2), Oct. 4; Connecticut Warbler, Sept. 20, Sept. 25, Sept. 26, Sept. 29, Oct. 4, Oct. 7; Water Thrush, Sept. 22; Redstart, Sept. 22 (2), Sept. 29; Cat Bird, Sept. 25; Ruby-crowned Kinglet, August 16; Wood Thrush, Sept. 22; Olive-backed Thrush, Sept. 22; Gray-cheeked Thrush, Sept. 22, Sept. 29; Robin, Oct. 21.

The most interesting records are perhaps the Robin, which is not supposed to migrate at night, and the Ruby-crowned Kinglet on August 16, a very early date. It will be noticed that the Red-eyed Vireo, Parula, and Maryland Yellow-throat still continue the most numerous species.

Elliott Coues on the Death of John Cassin

In a memorial on the late Dr. James G. Cooper, in a recently issued number of the *Condor*, there is published a letter written by Dr. Coues to Dr. Cooper, dated Fort Macon, N. C., February 21, 1869, which contains the following beautiful tribute to Cassin. As we read it we recall the similar thoughts that passed through the mind of many an American ornithologist when, three years ago, we heard that Elliott Coues was no more.

"Of course you heard the sad, sad news that John Cassin's labors are ended. The loss to science none of us can measure; nor can those privileged to call him friend adequately express the depth of that bereavement. And many as are our American ornithologists—high as some stand in American Ornithology—there is none left in all our land who can lift up the mantle that has fallen from his shoulders. His good work is accomplished, and he has gone to reap the rich reward of a life nobly spent in the survey of Nature's beauties, in drinking from the perennial fountain of Nature's truths. Since Audubon passed away from the scene of his usefulness, death has struck no such cruel blow to our beloved science. As Dr. Brewer has said to me, 'Which one of our younger ornithologists will undertake to stand, after thirty-five years of training, where Cassin stood at his death?' The all-worthy, time-honored quartette has been rudely broken. Now only a triangle, Lawrence, Brewer and Baird, remains of the last generation of American ornithologists. Who shall lead opinion when they, too, are gathered to their fathers? A higher trust than we perhaps appreciate is laid upon the few of us of this later day who pay devotion to the beautiful study of ornithology. It is no less than the keeping bright and untarnished, and transmitting to our successors, the name and fame of the science that has absorbed such minds as those of Wilson, Nuttall, Audubon, Bonaparte and Cassin. May we prove worthy servitors, guarding with jealous care our trust, watchful that the vestal fires shall ever burn at the shrine we worship with a clear and steady flame.

"Ever yours, faithfully, Elliott Coues."

Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1902

January 2, 1902.—Annual Meeting. Twenty-seven members present. The present officers were re-elected to serve for the ensuing year, as follows:

President—Charles J. Pennock.

Vice-President—William A. Shryock.

Secretary—William B. Evans.

Treasurer—Stewardson Brown.

The resignation of Mr. Henry W. Fowler from Active membership and of Mr. William M. Strang from Associate membership were accepted. Mr. Fowler having moved his residence to California, he was elected a Corresponding member.

Messrs. Herbert L. Coggins and Witmer Stone described a wagon trip of six days across the pine barrens of New Jersey (see pp. 26–31), and Mr. Wm. L. Baily read a paper on the "Gulls and Terns of the Maine Coast," illustrating his remarks with lantern slides of the country and the birds. The paper was based upon a trip made by Mr. William Dutcher and the writer during June, 1901, in the interest of bird protection. (See *Auk*, 1902, pp. 44–47.) The club later adjourned to a lunch.

January 16, 1902.—Fourteen members present.

Mr. Palmer read a list of the birds observed by him at Bustin's Island, Maine, during the past summer, and commented on several species. The Vireos of eastern Pennsylvania and New Jersey were then discussed by all the members present.

The Warbling Vireo (*V. gilvus*) was reported as not uncommon in the upper part of Germantown (*Emlen*), common at Kennett

Square, Pa. (*Pennock*), and a regular breeder at Moorestown, N. J. (*Evans*).

At least two pairs of the Yellow-throated Vireo (*V. flavifrons*) nested regularly at Moorestown (*Evans*), where their song is rather a common summer sound, and the parent has been observed to sing on the nest.

February 6, 1902.—Nineteen members present.

The resignation of Mr. Frederick Clark, Associate member, was accepted.

Mr. Arthur C. Emlen read a paper "A Study of the Germantown Grackle Roost." (See pp. 22–25.)

Mr. DeHaven stated that there was a Grackle roost near Bryn Mawr, Montgomery county, and a very large one a quarter of a mile below Peach Bottom, Lancaster county, Pa., on the Susquehanna river. Mr. Stone mentioned a large roost at Media, Delaware county, and others near Coatesville and Pocopson, Chester county, Pa.

February 20, 1902.—Sixteen members present.

Mr. Thomas D. Keim was elected an Associate member.

Dr. Spencer Trotter spoke on the birds observed during a summer's outing at Barrington Bay, Nova Scotia.

A general discussion on the Swallows of Eastern Pennsylvania and New Jersey followed, with the object of bringing forth matter supplementary to that contained in the Club book.

The Purple Martin (*Progne subis*) was still regarded as local in eastern Pennsylvania, colonies being reported at Wawa, Idlewild, Media, Glen Mills, West Chester and Lenape.

The Cliff Swallow (*Petrochelidon lunifrons*) appears to be losing ground. Colonies were reported at Chestnut Hill (*S. Trotter*) and Lansdowne (*Wright*), while four out of five stations about Kennett Square have been deserted (*Pennock*) and other abandoned stations were mentioned at Lenape, Radnor and Wynnewood. The Tree Swallow (*Tachycincta bicolor*) is found in small numbers every mild winter at Cape May, N. J. (*H. W. Hand*) and breeds regularly on the tops of the Alleghanies in Sullivan and Wyoming Counties, Pa. (*Stone*).

The Bank Swallow (*Clivicola riparia*) has been found breeding abundantly at various localities, Chester, Holmesburg, and Bethayres, Pa., and also on the lower Susquehanna, Pa., and Pensauken Creek, N. J.

March 6, 1902.—Fifteen members present.

Mr. Mark L. C. Wilde resigned from Associate membership.

Mr. Hannum described the "Birds of an Inland Marsh" situated in Delaware Co., Pa.

Mr. S. N. Rhoads spoke of a visit he had made to various institutions in eastern Pennsylvania and northern New Jersey in search of information relative to the mammals of these States, and commented upon the collections of birds that he had seen. That at Lehigh University was particularly noteworthy. He had also found in the possession of Mr. Campbell, of Pittston, a specimen of Razor-billed Auk (*Alca torda*), shot on a lake in the vicinity; and had learned of the regular breeding of the Duck Hawk (*Falco peregrinus anatum*) at Campbell's Ledge on the Susquehanna near Pittston.

March 20, 1902.—Twenty-six members present. Dr. W. E. Hughes addressed the club on his trip to the mountains of Chihuahua, northern Mexico. He described the country and the larger game animals, and dwelt at length on the birds of the region, speaking especially of the Thick-billed Parrot (*Rhynchopsitta pachyrhyncha*), the Imperial Woodpecker (*Campephilus imperialis*), Trogon and Fool Quail (*Cyrtonyx montezuma*).

April 3, 1902.—Sixteen members present. A general discussion was held on the progress of the spring migration (see pp. 32–42. Mr. S. N. Rhoads spoke of an excursion from Bridgeton to Greenwich, southern New Jersey, on March 27. He found birds scarce, and there were apparently no Sharp-tailed Sparrows on the salt marshes along the bay.

Mr. Stone exhibited a Cedar Bird (*Ampelis cedrorum*) from the collection of Mr. Philip Laurent, obtained at Mt. Airy, Philadelphia, March 17, 1900, which had the tips of the primaries gray, much the same color pattern, as prevails in the other

species of this genus. He regarded it as a probable reversion to an older type of coloration. One other specimen in the Academy's collection showed a similar tendency to a slight degree.

April 17, 1902.—Fourteen members present.

Mr. Coggins described a Night Heron rookery on the Delaware River near Red Bank, N. J., which he visited in 1898. At that time the birds were quite numerous, but they have since deserted the place. Mr. Pennock reported a colony of about forty nests of these birds at Joanna's Furnace, northern Chester County, Pa. The heronry at Port Kennedy, Pa., was described and two others recorded near Moorestown, N. J. At Haddonfield, N. J., a few scattered pairs nest regularly.

Mr. Pennock described his experience of several years with the nesting of the Great Horned Owl (*Bubo virginianus*). Of fourteen nests that had come under his observation, nine were outside nests and five in hollow trees. The earliest date he had recorded for a full set of eggs was February 15, at Kennett Square, Pa. In one of the nests in a hollow tree the tail of the sitting bird projected several inches from the opening on the side of the trunk, while another had been lined with a rabbit skin, fur side up.

May 1, 1902.—Twenty members present.

Mr. S. N. Rhoads presented a paper on "New Localities for the Henslow's Bunting (*Ammodramus henslowii*)." A general discussion on the bird followed.

May 15, 1902.—Twenty-three members present.

Messrs. Norman A. Passmore and Edward W. Woolman were elected Associate members.

Mr. Frederick Sörensen read a paper entitled "A Glance at English Literature of Field and Forest," treating especially of the works of Isaac Walton, Gilbert White and Richard Jefferies.

October 2, 1902.—Sixteen members present.

Mr. Bartram W. Griffiths was elected an Associate member.

Mr. Morris described a recent trip to Town Point, Md., on the Chesapeake. He found two Mockingbirds but nothing else of importance, though birds were abundant and he regarded the locality as a particularly good one for the study of bird life.

Mr. Emlen followed with some notes on a late summer visit to a wild section of Rhode Island, some sixteen miles back of Narragansett. In a dense bog, near Wauchaug pond, a number of distinctly northern plants were found, and he thought it a good place to look for possible boreal birds.

Mr. E. M. Evans, who accompanied Mr. Emlen, saw a Mockingbird in this vicinity on August 20, 1902.

Mr. Roberts reported that the pair of Mockingbirds that bred last year in Bucks Co., Pa., returned the present season but remained in the vicinity only about a week.

October 16, 1902.—Sixteen members present.

Messrs. Frederick N. Owen and Chreswell J. Hunt were elected Associate members, and Mr. Wm. E. Hannum was elected an Active member.

Mr. J. A. G. Rehn furnished the paper of the evening, describing an expedition to southern New Mexico, undertaken by Mr. H. L. Viereck and himself, in the interests of the Academy, in April and May of the present year. The country was described with the aid of maps and photographs and the bird life was treated in detail. (see Proc. Acad. Nat. Sciences, Phila., 1903.)

Mr. Coggins spoke of birds observed at York Furnace, Pa., on May 30, 1902, and Dr. Trotter reported the Northern Shrike as common during summer in Nova Scotia, where he had been located.

Mr. Stone called attention to two Arkansas Goldfinches in Mr. Rehn's New Mexican collection which, contrary to the custom in the eastern species, were renewing the remiges along with the body plumage in the prenuptial molt.

November 6, 1902.—Sixteen members present.

Mr. Edw. A. Selliez was elected an Associate member.

Mr. S. N. Rhoads addressed the meeting on "Some Old Tes-

tament Birds," illustrating his remarks with specimens from Palestine in the collection of the Academy.

November 20, 1902.—Nineteen members present.

Mr. Asa P. Way was elected an Associate member.

Mr. Carter spoke on the "Birds of the Shawangunk Mountains," covering observations made on two successive summer visits. The Hermit Thrush and Veery were found, the latter abundantly, but only a few Wood Thrushes. The Yellow-breasted Chat was twice heard, and other birds mentioned as breeders were the Black-throated Blue and Chestnut-sided Warblers, Purple Finch and Black-billed Cuckoo. Dr. Trotter commented on the differences between the bird-life of this region and the Beaver Kill, which he had visited. Mr. Carter recorded the capture of a male Duck Hawk at Lenape, Chester county, Pa., October 10, 1902, and the nesting of the Hairy Woodpecker in Fairmount Park.

William B. Evans gave an outline of the sessions of the 20th Congress of the American Ornithologists' Union at Washington, D. C., and additional particulars were furnished by Messrs. Wright and Morris.

December 4, 1902.—Twenty-one members present.

Dr. Wm. E. Hughes described a second trip to Chihuahua, Mexico, undertaken in September, 1902, and exhibited a number of specimens secured by him. Comments followed by Mr. Rehn.

December 18, 1902.—Eighteen members present.

W. B. Evans read a paper on "The Unusual Flight of White Herons of 1902," illustrating his remarks with specimens and maps. (See pp. 15–21.)

Mr. S. N. Rhoads gave a brief summary of the occurrence of Henslow's Sparrow in New Jersey, being an abstract of a paper which he presented for publication. (See pp. 6–14.)

Mr. Stone summarized the work accomplished under the auspices of the Club in the study of the spring migration of 1902 in the Delaware Valley.

On behalf of Mr. McCadden, the occurrence of a Red-throated Loon (*Gavia lumme*) at Radnor, Pa., December 16, 1902, was recorded. The bird was caught alive by the roadside. It was supposed that it had been driven to the ground by the recent storm and was unable to get on the wing again.

Bird Club Notes

With this number of Cassinia we present a sketch of another of Philadelphia's famous ornithologists, accompanied by a portrait. In each succeeding issue we hope to present an outline of the life of one of our predecessors who helped to make Philadelphia, for many years, a center of ornithological activity.

* * *

The club held sixteen meetings during 1902, with an average attendance of eighteen, forty-six members attending one or more meetings.

* * *

The Club has this year successfully organized a corps of observers for the study of bird migration which bids fair to produce some records of considerable scientific value, as well as to bring into closer touch all persons interested in bird study in Eastern Pennsylvania and Southern New Jersey; forty-two observers were engaged in the work during the past year and we hope to largely increase the number next season. We shall be glad of the assistance of any one familiar with our commoner birds, and so situated as to be able to note the progress of the spring migration. A blank schedule will be forwarded to any one who desires to engage in the work. Inquiries should be addressed to William E. Hannum, Chairman D. V. O. C., Committee on Bird Migration, Swarthmore College, Delaware County, Pa.

* * *

In beginning its third year the Spencer F. Baird Club starts with renewed interest and greater enthusiasm among its members. Plans for the year's work have been discussed and a regular course of study planned with the definite aim in view of creating a greater interest in the study of birds in Philadelphia. It is purposed to celebrate annually, February 3d, Prof. Baird's

birthday by a public meeting, to which all interested in the study of birds will be invited. The officers for the ensuing year are: President, Mrs. Edward Robins; Secretary and Treasurer, Miss Mary Parker Nicholson; Corresponding Secretary, Mrs. William Channing Russel.

* * *

The Pennsylvania Audubon Society has reached a general membership of over 7,000 representing all but six of the sixty-eight counties of the state.

At the meeting of the National Committees of the Audubon Societies held in Washington, D. C., November 19, 1902, fifteen societies were represented.

Mr. F. M. Chapman addressed the annual meeting of the Pennsylvania Audubon Society at the Academy of Natural Sciences, January 10, 1903, on "The Life of the Nest."

The old officers were re-elected for the ensuing year.

* * *

At the A. O. U. Congress held in Washington, D. C., Nov., 1902, the D. V. O. C. was represented by Messrs. Pennock, Morris, Baily, Evans, Wright, Rehn and Stone, and four papers were presented by club members.

"Notes on the life of Edward Harris with extracts from his Journals," George Spencer Morris.

"A Contribution to the Life History of the Herring Gull," Wm. L. Baily and Wm. Dutcher.

"A Glance at the Historical Side of the Check-List of North American Birds," Witmer Stone.

"The Significance of Trinomials in Nomenclature," Witmer Stone.

Bartram W. Griffiths, Thomas D. Keim and Chreswell J. Hunt, of the D. V. O. C., were elected Associates of the Union.

The twenty-first congress of the A. O. U. will be held at the Academy of Natural Sciences, Philadelphia, Nov. 16, 1903, and a committee of arrangements has been appointed, consisting of Witmer Stone, William L. Baily and Charles J. Pennock.

OFFICERS AND MEMBERS

OF THE

Delaware Valley Ornithological Club.

1903.

CHARLES J. PENNOCK, *President.*
WILLIAM A. SHRYOCK, *Vice-President.*
WILLIAM B. EVANS, *Secretary*, 56 N. Front St., Phila.
STEWARDSON BROWN, *Treasurer*, 20 E. Penn St., Germantown.

ACTIVE MEMBERS.

WILLIAM L. BAILY, Ardmore, Pa. . . . . Founder.
STEWARDSON BROWN, 20 E. Penn St., Germantown, Phila. . . . . * 1891
HERBERT L. COGGINS, 5025 McKean Ave., Germantown, Phila. . . . 1897
I. NORRIS DEHAVEN, Ardmore, Pa. 1891
ARTHUR C. EMLEN, Awbury, Germantown, Pa. 1897
WILLIAM B. EVANS, Moorestown, N. J. 1898
HENRY W. FOWLER, Holmesburg, Phila. 1894
WILLIAM E. HANNUM, Swarthmore College, Delaware Co., Pa. 1901
WILLIAM E. HUGHES, M. D., 3945 Chestnut St., W. Phila. 1891
GEORGE SPENCER MORRIS, Olney, Phila. . . . . Founder.
CHARLES J. PENNOCK, Kennett Square, Pa. 1895
CHARLES J. RHOADS, Bryn Mawr, Pa. 1890
SAMUEL N. RHOADS, Audubon, N. J. . . . . Founder.
WILLIAM A. SHRYOCK, 21 N. Seventh St., Phila. 1891
WITMER STONE, Academy Nat. Sciences, Phila. . . . . Founder.
SPENCER TROTTER, M. D., Swarthmore College, Delaware Co., Pa. Founder.
SAMUEL WRIGHT, Conshohocken, Pa. 1892

*Date indicates year of election to Club.

HONORARY MEMBER.

SAMUEL W. WOODHOUSE. M. D., 1306 Pine St., Phila. 1900

ASSOCIATE MEMBERS.

CHARLES W. BUVINGER, 911 N. Sixteenth St., Phila. 1900
WILLIAM D. CARPENTER, 228 S. Twenty-first St., Phila. 1899
JOHN D. CARTER, Haverford, Pa. 1900
FRANCIS R. COPE, JR., Awbury, Germantown, Phila. 1895
WILLIAM J. CRESSON, Swarthmore, Delaware Co., Pa. 1899
ERNEST M. EVANS, Awbury, Germantown, Phila. 1899
A. J. FELLOWS, 4006 Chestnut St., W. Phila. 1894
GEORGE FORSYTHE, West Chester (Route 4), Chester Co., Pa. 1891
SAMUEL M. FREEMAN, 13 E. Penn St., Germantown, Phila. 1896
ALFRED MORTON GITHENS, 1512 Pine St., Phila. 1895
BARTRAM W. GRIFFITHS, 4024 Green St., W. Phila. 1902
SAMUEL S. HAINES, M. D., Mill St. & Central Ave., Moorestown, N. J. 1901
THOMAS L. HAMMERSLEY, 839 N. Forty-first St., W. Phila. 1896
CHRESWELL J. HUNT, 1306 N. Fifty-third St., W. Phila. 1902
WILLIAM W. JUSTICE, JR., Manheim and McKean Aves., Germantown, Phila. 1903
THOMAS D. KEIM, 405 Radcliffe St., Bristol, Pa. 1902
RAYMOND KESTER, Lansdowne, Delaware Co., Pa. 1892
NATHAN KITE, Moylan, Delaware Co., Pa. 1898
JOSEPH B. LODGE, 3340 N. Sixteenth St., Phila. 1900
DAVID MCCADDEN, 4204 Powelton Ave., W. Phila. 1892
H. E. MCCORMICK, 507 S. Forty-third St., W. Phila. 1901
WALTER W. MAIRES, M. D., 939 N. Twelfth St., Phila. 1899
F. GUY MEYERS, 4603 Cedar Ave., W. Phila. 1896
J. R. MOON, 836 Broadway, Camden, N. J. 1897
ROBERT T. MOORE, Haddonfield, N. J. 1897
ELMER ONDERDONK, 4221 Parrish St., W. Phila. 1903
FREDERICK N. OWEN, 1812 Green St., Phila. 1902
SAMUEL C. PALMER, Swarthmore Prep. School, Swarthmore, Pa. . . . 1899
NORMAN H. PASSMORE, Swarthmore College, Pa. 1902
JAMES F. PRENDERGAST, M. D., 3833 Spring Garden St., W. Phila. . . 1899
J. HARRIS REED, Aldan, Delaware Co., Pa. . . . . Founder.
JOHN H. REESE, Riverton, N. J. 1894
JAMES A. G. REHN, 1918 N. Twenty-first St., Phila. 1899
WILLIAM R. REINICK, Wagner Institute, Seventeenth and Montgomery Ave., Phila. 1900
WILLIAM E. ROBERTS, Swarthmore College, Delaware Co., Pa. 1901
ANTHONY ROBINSON, 409 Chestnut St., Phila. 1898
W. E. ROTZELL, M. D., Narberth, Montgomery Co., Pa. 1891
WILLIAM B. SCHEUING, 3024 W. York St., Phila. 1893

C. Few Seiss, 1338 Spring Garden St., Phila. 1892
Edward A. Selliez, 1317 N. 19th St., Phila. 1902
William J. Serrill, Haverford, Pa. 1891
Edwin Sheppard, Acad. Nat. Sciences, Phila. 1891
Walter G. Sibley, 6626 McCallum St., Germantown, Phila. 1900
L. I. Smith, Jr., 3908 Chestnut St., W. Phila. 1901
Walter Gordon Smith, 5870 Drexel Road, W. Phila. 1898
Reynold A. Spaeth, 7300 Boyer Ave., Mt. Airy, Phila. 1901
James L. Stanton, 5218 Parkside Ave., W. Phila. 1901
William H. Trotter, Chestnut Hill, Phila. 1899
Joseph W. Tatum, 5220 Parkside Ave., W. Phila. 1892
Charles A. Voelker, Adamsford, Delaware Co., Pa. . . . . Founder.
Henry Warrington, 1700 Mt. Vernon St., Phila. 1896
Asa P. Way, Swarthmore College, Delaware Co., Pa. 1902
Charles S. Welles, Elwyn, Delaware Co., Pa. 1900
Cornelius Weygandt, 79 Upsel St., Germantown, Phila. 1891
Albert Whitaker, Cedar Grove, Frankford, Phila. 1896
Edward W. Woolman, 44 N. Thirty-eighth St., W. Phila. 1902

CORRESPONDING MEMBERS.

Charles H. Baker, Grassmere, Orange Co., Fla. 1900
Thomas J. Beans, Moorestown, N. J. 1895
Herman Behr, Lopez, Sullivan Co., Pa. 1897
Otto Behr, Lopez, Sullivan Co., Pa. 1897
W. H. Buller, Marietta, Lancaster Co., Pa. 1895
Walter D. Bush, Wilmington, Del. 1898
Frank B. Eastman, Wilmington, Del. 1898
Marcus S. Farr, Princeton, N. J. 1901
Harry L. Graham, Redlands, Cal. 1897
Allen H. Grosh, York, York Co., Pa. 1900
Henry Hales, Ridgewood, N. J. 1895
H. Walker Hand, 1002 Washington St., Cape May, N. J. 1900
Josiah Hoopes, West Chester, Pa. 1895
Thomas H. Jackson, West Chester, Pa. 1895
J. Warren Jacobs, Waynesburg, Greene Co., Pa. 1895
August Koch, Williamsport, Pa. 1895
Samuel B. Ladd, West Chester, Pa. 1895
Waldron D. W. Miller, Plainfield, N. J. 1900
Howard Y. Pennell, M. D., Downingtown, Pa. 1894
A. H. Phillips, Princeton, N. J. 1895
M. W. Raub, M. D., Lancaster, Pa. 1895
H. Justin Roddy, State Normal School, Millersville, Lanc. Co., Pa. . . 1895
Frederick Sörensen, Chalmersgarten, Göthenburg, Sweden 1900

Hugh E. Stone, Coatesville, Pa. 1895
H. A. Surface, State College, Pa. 1900
C. F. Sylvester, Princeton, N. J. 1901
W. E. Clyde Todd, Carnegie Museum, Pittsburg, Pa. 1895
William H. Werner, Atlantic City, N. J. 1901
William L. Whitaker, Joplin, Mo. 1893
Robert T. Young, Boulder, Colo. 1892

DECEASED MEMBERS.

Died.

J. Farnum Brown, Active member . . . . . May, 1894
John W. Detwiller, M. D., Corresponding member 1898
Gilbert H. Moore, Associate member . . . . . May, 1899
William Patterson, Corresponding member . . . . . August 27, 1900
William W. Smith, Associate member . . . . . July 3, 1892

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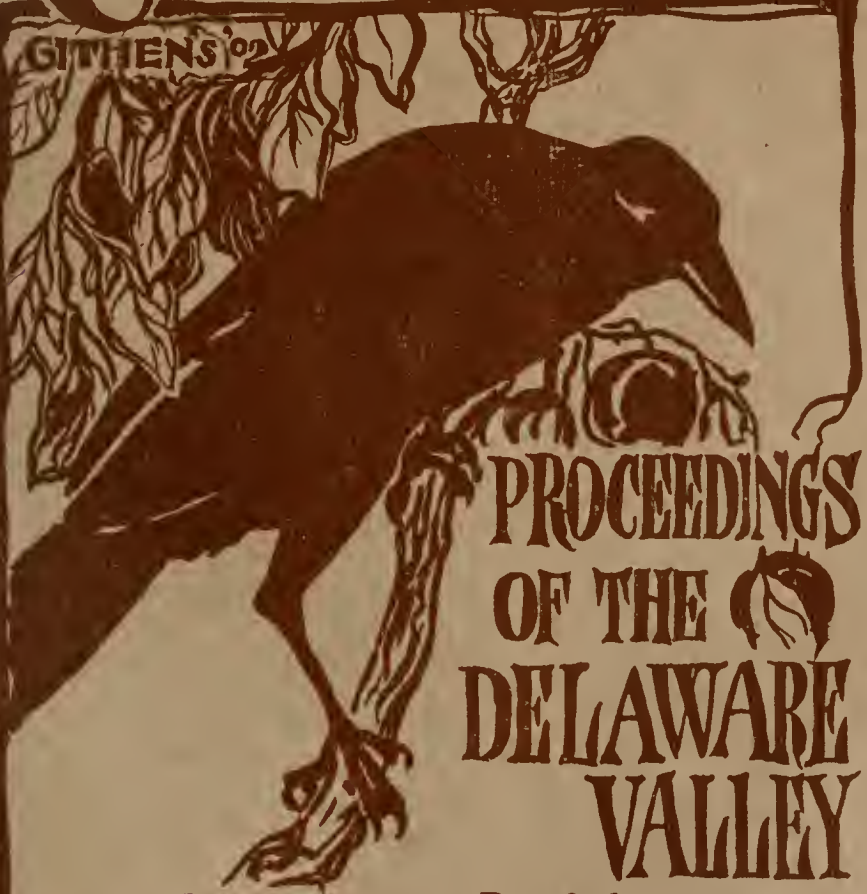

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John K. Townsend

CASSINIA

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

No. VII. PHILADELPHIA, PA. 1903.

John Kirk Townsend

BY WITMER STONE.

It not infrequently happens that a man of marked ability who would have shown as a star of the first magnitude at another period, is forced to enter upon his activities at a time when another star is already in the ascendant, whose radiance to a great extent casts his light into the shadow.

Such in a measure was the fate of John K. Townsend. As an ornithologist he appears to have been equal to any this country has produced, a painstaking and reliable observer and a fluent, scholarly writer. But with Audubon as a competitor, an artist of the first rank, whose pictures alone would have given him world-wide reputation, with an almost daring self-reliance, and with rich friends to back his undertakings, it was practically impossible for this modest, non-assertive student, to achieve the notoriety that might otherwise have been his. Furthermore, Townsend was unfortunate in living at a time when it was difficult to secure salaried museum positions which would have enabled him to pursue his favorite study, and his premature death cut off a career that might in spite of all have developed a still greater reputation.

John K. Townsend was born in Philadelphia, October 10, 1809, the son of Charles and Priscilla Kirk Townsend, his family being of Quaker ancestry, highly intellectual and cultivated. One of his brothers was a prominent penalogist, and his sisters were writers of some note, one of them being the author of an early popular book on Natural History called "Life in the Insect World." John was educated at Westtown Boarding School in Chester Co., Pa., the famous Quaker institution, upon whose rolls may be found the names of Thomas Say, John Cassin, Edward D. Cope, and many others prominent in science. He was even then much interested in birds, and became a most skilful taxidermist, his work attracting the admiration of all who saw it. He spent some time in early life with a cousin, the late Wm. P. Townsend, of West Chester, Pa., a man of kindred tastes, and together they formed a nearly complete collection of local birds, which is still preserved in the West Chester State Normal School.

About this time Townsend made his first noteworthy ornithological discovery. While collecting specimens for his friend Dr. Ezra Michener, May 11, 1833, at New Garden, Chester County, he shot a curious finch, unlike any that had previously been described. Dr. Michener states that they named it in their note-book *Euspiza albigula*, the White-throated Bunting. It was subsequently, however, published by Audubon, and named in honor of its discoverer *E. townsendi*. The specimen now in the National Museum remains unique, which fact would seem to point to its hybrid origin.

In 1834, when twenty-five years of age, Townsend, in company with Thomas Nuttall, the botanist and ornithologist, made a trip across the continent with an expedition headed by Capt. Wyeth, who was interested in the recently formed Columbia River Fishing and Trading Company. They went from Pittsburg by steamboat to St. Louis, and after purchasing their necessary outfits, the two naturalists started on foot across the state to Independence, where the caravan was encamped. They encountered birds of all sorts, including vast numbers of the brilliant Carolina Paroquets and dense flocks of Wild Pigeons.

On April 28th the expedition started, crossing to the Platte

river, thence along the North Fork to Laramie, to the Sweet Water, and through the South Pass of the Rocky Mountains. Thence their route followed the Bear River, to the upper spurs of the Wasatch Mountains, and down to Snake River, where they built Fort Hall and left part of their company. From here they traveled westward, following the Boise and Snake Rivers, and crossing the Blue Mountains, apparently by the same route now followed by the Oregon Railroad. From Fort Walla Walla they went down the Columbia and reached Fort Vancouver on September 16th.

After three months' sojourn in this vicinity Townsend and Nuttall visited the Sandwich Islands, where they collected many interesting specimens, and also made the acquaintance of the king, Kauikeaouli.

Returning to Vancouver, Townsend spent some time in further explorations, and during the absence of Dr. Gairdner was for a time in charge of the hospital. Nuttall left for home October, 1835, and in December, 1836, Townsend also started to return. He stopped again at the Sandwich Islands, as well as at Tahiti and Valparaiso, rounded the horn, and finally reached Philadelphia again in November 13, 1837, after an absence of three years and a half.

Townsend collected specimens wherever possible, and his material was the basis of many new species described by Audubon, Bachman and Cassin.

Among his discoveries in the western United States were the Sage Thrasher, Townsend's Solitaire, Hermit, Audubon's and Townsend's Warblers, Townsend's Bluebird, Harris' Woodpecker, Vaux's Swift, and many others.

Some of his Hawaiian birds are now specimens of the greatest rarity, owing to the rapid extermination of the native fauna of those interesting islands. The letters recently published by Mr. Rhoads in the *Auk* explain how, unable to adequately publish his new species of American birds, Townsend sold them to Audubon or his patrons, and supplied him with the information that he had secured concerning them.

In 1839 he did succeed in publishing his famous "Journal," a most entertaining account of his entire trip, supplemented by

brief descriptions of his new species and lists of all that he saw. The first edition of this work was exhausted in three weeks, and in 1842 he contemplated publishing another, but so far as I know this intention was never carried out. He published also two short papers in the Journal of the Academy containing lists of the species that he had met with in his travels. The real results of his labors were, however, embodied in the later volumes of Audubon's great work, and the identity of the contributor is to a great extent lost in the fame of the artist author.

Later Townsend conceived the idea of publishing an illustrated work on the Ornithology of the United States with plates of royal octavo size. A single part was issued, now one of the rarest brochures on American Ornithology, but apparently owing to the almost simultaneous appearance of the small edition of Audubon, the undertaking was abandoned.

Townsend had been elected a member of the Academy of Natural Sciences of Philadelphia in September, 1833, and upon his return from the west he was made a Curator, serving December, 1839–December, 1840, and later December, 1845–December, 1846.

In 1842 he was employed by the National Institute, Washington, D. C., in securing and mounting birds for their exhibit, while he served also as Recording Secretary.

In 1843 controversies arose between Capt. Wilkes who was superintending the preparation of the specimens brought back by the U. S. Exploring Expedition, and the National Institute, in whose rooms the material was stored, which resulted in the discharge of Townsend, just as he was becoming established where he would apparently have been in direct line for scientific positions under the soon-to-be-established Smithsonian Institution.

Congress undertook an investigation of the National Institute's affairs, and Townsend had hopes of being reinstated as Curator, but apparently nothing came of the matter, and by the end of 1845 we find him back in Philadelphia, living at Ninth and Cherry Streets, and studying dentistry, a profession in which two of his brothers had attained eminence.

Some years previous to this Townsend married Miss Harriet

Holmes, of Cape May Court House, N. J., a locality which he, in company with all the other ornithologists of the day, visited in pursuit of water birds. Frequent trips were later made by him and Wm. Baird to the Holmes establishment, from which they scoured the swamps and marshes for ducks, white herons, shore birds, and other species of interest.

His experiment as a dentist does not seem to have been a success, and in 1851 his health failed. His family attributed this to the effects of arsenic, and Dr. Mahlon Kirk, his brother-in-law, in a recent letter to me, writes: "I often saw John when employed by the government to mount specimens in Washington, bending over a big tray of arsenic in what was then called the Patent Office, now the Department of Interior, enveloped in a cloud of the dust, which being a cumulative poison, destroyed his health and ended in his premature death."

With the hope of recovering his health he engaged to go as naturalist with Commodore Aulich on a government cruise to the east coast of Africa. His sickness, however, so increased that he was unable to sail with the expedition, and he died soon after it left port, February 6, 1851, at the age of 42. Dr Kirk adds:

"Since his death over half a century has passed, but his lov able qualities and scientific attainments are as fresh and green now as I recall them in the first development of my manhood. His personality was most attractive. His courtesy, kindness of heart, and his brilliant conversational powers, fortified with a vivacious intellect and a fund of knowledge covering almost all subjects, made him a delightful companion and endeared him to every one who came within his influence."

The Red-headed Woodpecker as a Pennsylvania and New Jersey Bird

BY SPENCER TROTTER.

This bird has always been associated in my mind with some rare days of the year when cool winds are wandering through summer woods; days full of bright sunshine and redolent of the coming autumn. I first saw the bird on a certain hill-side in Maryland that was grown up with tall white-oaks, not thickly, but open enough for a sheep-pasture, with vistas of close-cropped grass among the gray tree-trunks. In this setting a Woodpecker winged before me from tree to tree with its strongly contrasted blotches of black, white, and crimson flashing in the sunlight. That was in the early seventies, and on that hill-side a spell was cast that has worked its subtle charm through all the years.

> So was it when my life began;
> So is it now I am a man;
> So be it when I shall grow old.

For a number of years I continued to find the Red-headed Woodpecker a fairly abundant bird in the farm lands close to the cities of Philadelphia and Baltimore, especially during the fall. It was conspicuous at times among the tall trees that crown the hills along the Schuylkill above the Girard Avenue Bridge. In late years it has disappeared from the immediate vicinity of the city, and I do not recall having seen it about its old haunts in the nearer parts of the park for the past twenty years. In the more remote farming districts, however, it is still fairly common, though never at any time or in any place an abundant species like the Flicker or the Downy Woodpecker. I have picked up a curious bit of folk-lore concerning the bird, a belief that the Red-headed Woodpeckers when unusually numerous in autumn presage a winter of great sickness. I have

noted the bird quite regularly among the shellbark hickories and plane-trees in the meadows along Chester Creek near Cheyney, Pennsylvania, and have seen the young birds practicing short flights during the earlier weeks of summer. In February, 1898, I saw it in this locality after an unusually mild winter, which was followed by a spell of abnormally warm weather in March. On the 27th of December, 1901, Stone, Rhoads and myself saw the bird in a piece of open woodland along one of the tide-water creeks below Camden, N. J. The following is from my note-book under date of March 30, 1901, at Northbrook, Chester county, Pennsylvania, on the west branch of the Brandywine:

"*Red-headed Woodpecker*, Obs., brought what was apparently a small acorn and stuck it into the crevice of a limb and seemed afterward to pound it in."

This particular bird I watched for some time. It kept continually flying up and down between the ground and the lower limbs of an oak that grew in the meadow, and at intervals visited a tree on the roadside near the spot where I was standing. On one of these visits it brought some object, possibly an acorn picked up in the meadow, and poking it into a crack began pounding it in with sledge-hammer strokes delivered with the force of the whole body, the head being held rigid, while the body moved on the leg joints as a pivot. This fact of the acorn-storing on the part of the Red-headed Woodpecker is interesting in connection with a similar well-known habit of the closely allied Californian Woodpecker.

I have never observed this species in the heavy timber of the Alleghanies, though I have noted it in the farm lands of mountainous districts, as at New Bloomfield, Perry county, Pennsylvania, where I once procured a specimen in an orchard in the outskirts of the town. So far as my own observations go, I am led to believe that the Red-headed Woodpecker is distinctly a bird of the agricultural districts where considerable remnants of woodland still exist. That as the farm lands give place to the suburbs in the vicinity of cities, the bird tends more and more to forego its old haunts and ultimately to retire to less populous districts. Its distribution in general must be largely a matter

of food supply, and increasing population in a district means the cutting down of trees and the loss of many species of birds to that particular locality. It is not a wilderness bird, like the Yellow-bellied and Hairy Woodpeckers, nor yet as familiar a bird as the Flicker, but a lover of that delectable tract, the remoter farmland districts, where the shrill and oft-repeated, rolling notes of its voice breaks the stillness that broods over the meadow pastures and through the groves of old homesteads. Possibly its retirement from the more crowded districts may be due to its having been persistently shot at, for a bird at once so restless and loud-voiced and with such striking contrast of color would always be a conspicuous object and a target for the *profanum vulgus*. Ever in action and ever in evidence in the immediate locality that it frequents, it is anything but shy and rarely appears disconcerted, allowing one to approach often within a few feet without betraying any alarm.

In reply to inquiries directed to a number of members of the Delaware Valley Ornithological Club and others, relative to the distribution of the Red-headed Woodpecker in eastern Pennsylvania and southern New Jersey, some notes of much interest have been received.

It would seem that the bird is never seen in the Pine Barren district of New Jersey and is furthermore a rare species in the western part of the state between the barrens and the Delaware river. Mr. Rhoads has found it occasionally in winter at Haddonfield and at Audubon and Wm. B. Evans at Moorestown. Farther south Mr. Stone reports one seen near Salem, May 7, 1896. At Paterson, N. J., Mr. Josiah H. Clark states that the species is an irregular but rare permanent resident. Sometimes it is tolerably common, in April and May, and nests in June, its favorite site being in telegraph poles along country roads where there is not much travel.

In Pennsylvania it is much more plentiful and according to Mr. Stone is a bird of the larger valleys and of cultivated areas generally. Over the greater part of Lancaster county it is particularly common, also in Chester county, and along the Susquehanna and Schuylkill rivers. Mr. Stone writes, "In the higher mountains it seems to extend its range as the primeval

forest is removed and on the top of North Mountain, Sullivan county, it can now be seen in small numbers flying about among the blackened stubs left by the fires which have swept through the slashings and will no doubt gradually replace its larger relative, the Pileated Woodpecker, which disappears from the country along with the hemlock forests which form its home. Immediately about Philadelphia I used to see it breeding in a large buttonwood tree near Wayne Junction about 1879. Some five years later it had disappeared from this section entirely as a summer resident, though considerable flights of the birds were seen going overhead in the autumn. During the last few years, so far as my experience goes, the Red-headed Woodpecker is a rare bird within the city limits, though during May, 1902, I several times saw a pair flying over the southwestern part of the city and they possibly nested on the Sherwood tract near Angora. Some years ago one remained for part of the winter in Logan Square. In Lancaster county I have frequently noticed the male bird perch on the lightning-rod on top of a barn near where the female had her nest, and rattle repeatedly on the iron apparently for pure enjoyment of the sound."

Mr. Thos. D. Keim states that in the vicinity of Bristol he observed several throughout the winter of 1901–2 until May 4, 1902, when they disappeared.

Mr. W. E. Roberts writes that near New Hope, Pa., he knows of the nesting place of a single pair which has been used annually for the last five years. Besides this pair, he has seen the bird only occasionally in that vicinity, but he has not known it to winter.

Prof. H. A. Surface, of State College (Bellefonte), Pennsylvania, informs Mr. Stone that the bird is common there in the summer and that he had observed young birds in the autumn picking up acorns and jaming them into cracks in the bark. He regarded this habit in the young birds as particularly significant, if it is to be regarded as a reversion to a habit of some ancestral species of *Melanerpes*.

Mr. Waldron D. W. Miller, of Plainfield, N. J., writes that "in the immediate vicinity of Plainfield, the Red-headed Woodpecker is usually a rare or rather rare bird, but some seasons

common, or rather so, in fall. I have never found it breeding, nor in the breeding season, within six miles of Plainfield (though it possibly breeds within that distance southwesterly from here, between New Market and Bound Brook). It is of much more common and regular occurrence in the Passaic Valley and Great Swamp region north of the mountain north of Plainfield. It is a permanent resident there as I have found it in the winter in several different years, and on July 1, 1900, observed one (and one or two more near by) at its nest in the Great Swamp region, one mile north of Myersville. Through the country east and south of Plainfield, it is probably wholly absent as a summer resident, though may possibly be found in a few spots which I have not visited. On September 21, 1901, and August 16 and 30, 1902, I made canoe trips along the Canal and Raritan river, just west of Raritan, and there found this species more numerous than I have found it anywhere else. I was informed that the birds were seen throughout the summer and have no doubt that they breed."

Mr. Frank L. Burns, of Berwyn, Chester county, Pennsylvania, writes that he has always regarded the bird as a resident in that vicinity, though he believed that he never observed it during the month of January. According to his statements it undoubtedly winters in certain years in the Chester Valley. "Up to 1887," writes Mr. Burns, "it was not uncommon, became so until 1893 in this neighborhood, and at the present time three pairs are a goodly number to meet in a day's ramble over Easttown township or in the Great Valley."

These scattered notes simply serve to show that this erratic bird is probably more erratic than we had supposed. He is certainly a "great genius," as Dr. Coues has remarked, "no less brilliant and versatile in character than in plumage." Even as far back as the time of Mark Catesby he was playing the harlequin, rattling, with evident delight, on the "boarded houses," and from the very first manifesting a preference for the villages and plantations. Apart from his beauty and the sentiment with which many of us may, perchance, associate him, we are attracted by the bold way in which he seems to set at defiance the laws of distribution and migration, and by the strange habits which he now and then displays.

Notes on the Summer Birds of Lehigh Gap, Pennsylvania

BY JAMES A. G. REIN.

The Blue Ridge of central eastern Pennsylvania is a rather uniform mountain range of an average elevation of about twelve hundred feet above sea-level, though rising here and there into rounded domes some three hundred feet higher. As is well known, the larger streams of this section of the country follow courses all more or less at right angles to the general trend of this outpost ridge of the Appalachian system. Of the several breaks in the chain caused by or utilized for the passage of streams, the most noted is the Delaware Water Gap, but probably none present more beautiful surroundings or a more desirable and secluded spot for the nature student than that known as Lehigh Gap. There the writer has spent a number of pleasant days during six visits covering a period of three years.

The Lehigh Gap region may be called the corner-stone of three counties, as to the northwest of the ridge stretches Carbon County, while on the southeast the Lehigh river separates the counties of Northampton and Lehigh. The small village of Lehigh Gap nestles directly at the foot of the Blue Ridge on the south side of the river, and is distant about two miles from the important town of Slatington. Near this place the writer resided and here many of the following observations were made. Lehigh Gap, Carbon county (also known as Palmerton), is situated on the north shore of the river and has recently assumed commercial importance due to its rather extensive zinc plant.

The Lehigh river receives an affluent from the southwest, about three miles above the Gap, which is known as Lizard creek. Immediately to the north of the mountains the stream is further recruited by the beautiful Aquanchicola creek. This latter stream meanders close to the foot of the Blue Ridge, and

stretches off toward the higher Pocono country to the northeast. No other important tributaries are received by the river north of Slatington.

The Blue Ridge on the southwestern side of the river is developed into a rounded dome, which bears, about half way up one of its slopes, a jagged point known as the Devil's Pulpit. The northeastern side of the river is guarded by a very rugged promontory, which is divided into two parts by a gully. The upper portion of the Northampton half of this peak is formed into a distinct "hog back." Both of these sentinels reach fifteen hundred feet above sea-level, and the view from the top of either is very extensive, taking in the full sweep of the valley of the Lehigh.

As far back as 1845, Rupp* describes the passage through the Lecha Wasser-Kaft, or Lehigh Gap, in terms which put the English language severely to task, but the general facts of which, aside from the redundancy of adjectives, are quite true to nature.

The country along the valleys of the river and the Aquanchicola creek has, to a great extent, been cleared, but the sections a short distance back and on the mountains are almost wholly clothed with forest. The greater part is, of course, second growth, but some patches and scattered trees remain of the original hemlocks. These patriarchs rear their heads above the surrounding forest, and the mouldering, prostrate trunks of many of their brethren may be found on the slopes. The valley region and the lower slopes, as a rule, bear mixed deciduous forest, chestnut predominating; while the immediate river bank is clothed with willows. On the upper slopes of the mountains the timber is smaller and poor, while the tops themselves are covered with a scragged growth, almost entirely pines and very open in character. A number of open, park-like spots on the very summits are thickly overgrown with two species of huckleberries.

Hemlock is the prevailing tree in the gully on the northeastern peak, and a small patch exists at the base of the southwestern dome, but elsewhere it is the exception.

* History of Northampton, Lehigh, Monroe, Carbon and Schuylkill Counties, Harrisburg, pp. 113, 114.

Rhododendron and laurel (*Kalmia latifolia*) are both present in the deeper and more shaded nooks on the lower slopes, but do not seem to occur on the higher portions, probably on account of the lack of shade and moisture. Vast tangles of both of these shrubs occur along the Aquanchicola creek.

As my observations have all been made in late June, July and the middle of August, it is fair to assume that practically none but breeding birds were noticed. To be more exact, the dates spent in the Gap region were: July 9–14, 1900; June 24–July 6, 1901; July 20–23, 1902; June 28, July 19–24 and August 16, 17, 1903. The August observations were very few and unimportant.

The bird life is Alleghanian in character, the Black-capped Chickadee, Rose-breasted Grosbeak, and several birds more characteristic of this zone than of the Carolinian being among those noted. A touch, however, of the pure Carolinian seems to be felt, as the Worm-eating Warbler was noticed in the river valley, and the Chat in a number of situations, in fact, once on the very summit of the ridge.

The lower woods seem to possess as characteristic species the Wood Thrush and Red-eyed Vireo; the open farming country the Catbird, Robin, Bluebird, Baltimore Oriole, Barn Swallow, Purple Martin, Goldfinch and Quail; the upper slopes and tops of the ridge the Blue Jay, Flicker, Maryland Yellow-throat, Hairy Woodpecker, Black-capped Chickadee and Towhee.

Unless otherwise stated the abundance of a species is understood to be the same as in the vicinity of Philadelphia, and where no annotations are given the species are understood to be common and generally distributed.

1. *Nycticorax nycticorax nævius.* Black-crowned Night Heron. Seen on two occasions flying along the river.

2. *Actitis macularia.* Spotted Sandpiper. Noticed frequently along the river banks, and probably nested in a piece of waste land bordering the river, as here, on one occasion (June 28, 1901), two adults and one young were observed.

3. *Colinus virginianus.* Quail. Heard and noticed frequently in the farming section between the Gap and Slatington.

4. *Bonasa umbellus.* Ruffed Grouse. Probably moderately

common. On June 26, 1901, an adult and young were located near a snake fence in close proximity to a house.

5. *Zenaidura macroura.* Mourning Dove. Several noticed, July 12, 1900, some distance up the northeastern peak. Apparently not numerous.

6. *Cathartes aura.* Turkey Vulture. One soaring, July 10, 1900.

7. *Buteo*, sp. Several noticed, but species not determined.

8. *Falco peregrinus anatum.* Duck Hawk. A pair of these birds evidently nested near the Devil's Pulpit, and nearly every visit to this crag found them somewhere in the vicinity. They were noticed on July 14, 1900, June 30, 1901, and July 22, 1903.

9. *Coccyzus americanus.* Yellow-billed Cuckoo. Several in the vicinity of houses, July 10, 1900 and July 21, 1903.

10. *Ceryle alcyon.* Kingfisher. One noticed flying along the river, August 17, 1903.

11. *Dryobates villosus.* Hairy Woodpecker. Two observed well up on the northeastern peak, July 12, 1900.

12. *Dryobates pubescens medianus.* Downy Woodpecker. Observed but once, July 10, 1900.

13. *Colaptes auratus luteus.* Flicker.

14. *Antrostomus vociferus.* Whippoorwill. Numerous, and heard on many occasions.

15. *Chordeiles virginianus.* Night-hawk. Noted on but two occasions, July 1, 1901 and July 21, 1902.

16. *Chætura pelagica.* Chimney Swift.

17. *Trochilus colubris.* Ruby-throated Humming-bird.

18. *Tyrannus tyrannus.* King-bird.

19. *Sayornis phoebe.* Phoebe.

20. *Contopus virens.* Wood Pewee. Observed on two occasions, July 13, 1900 and June 27, 1901.

21. *Cyanocitta cristata.* Blue Jay. Observed and heard only in the forest regions, and apparently more numerous on the rugged northeastern peak.

22. *Corvus americanus.* Crow.

23. *Sturnella magna.* Meadow-lark. Observed but once, then in the cultivated country between the Gap and Slatington.

24. *Icterus galbula.* Baltimore Oriole. Rather numerous near houses, and frequently observed.

25. *Quiscalus quiscula.* Purple Grackle. Several observed on July 9, 1900, the only record.

26. *Astragalinus tristis.* Goldfinch.

27. *Passerculus sandwichensis savanna.* Savanna Sparrow. Observed but one, July 12, 1900.

28. *Spizella socialis.* Chipping Sparrow.

29. *Spizella pusilla.* Field Sparrow.

30. *Melospiza cinerea melodia.* Song Sparrow.

31. *Pipilo erythropthalmus.* Towhee. Abundant on all the upper slopes, and observed or heard on almost every trip to the summits. Never observed in the valleys.

32. *Zamelodia ludoviciana.* Rose-breasted Grosbeak. One female observed, July 21, 1903, near the Gap.

33. *Cyanospiza cyanea.* Indigo-bird. Observed twice, July 10 and 13, 1900.

34. *Progne subis.* Purple Martin. Several observed between Lehigh Gap and Slatington, July 21, 1903.

35. *Hirundo erythrogastra.* Barn Swallow.

36. *Vireo olivaceus.* Red-eyed Vireo.

37. *Mniotilta varia.* Black and White Warbler. Two specimens noticed in heavy timber, July 13, 1900.

38. *Helmitheros vermivorus.* Worm-eating Warbler. One specimen noticed along the river, July 12, 1900.

39. *Dendroica æstiva.* Yellow Warbler. Heard on one occasion, July 10, 1900.

40. *Sciurus aurocapillus.* Oven-bird. Several noticed on two occasions, June 30 and July 2, 1901.

41. *Geothlypis trichas.* Maryland Yellow-throat. Abundant on the upper slopes. Possibly this was the northern form *G. t. brachydactyla*, but as no specimens were secured this point remains in doubt.

42. *Icteria virens.* Yellow-breasted Chat. Several noticed on July 10, 1900, one specimen being on the extreme summit of the southwestern dome.

43. *Setophaga ruticilla.* Redstart. One specimen noticed on the lower slopes July 13, 1900.

44. *Galeoscoptes carolinensis.* Catbird.

45. *Toxostoma rufum.* Brown Thrasher. Two specimens

noticed on July 11, 1900, low down on the mountain near an orchard.

46. *Troglodytes aëdon.* House Wren.

47. *Parus atricapillus.* Black-capped Chickadee. Quite numerous on the upper slopes of the mountain, and on several occasions their cheery notes were heard around the house by the river.

48. *Hylocichla mustelina.* Wood Thrush. Abundant, but only in the deep timbered section at the foot of the ridge.

49. *Merula migratoria.* Robin.

50. *Sialia sialis.* Bluebird. Not noticed until 1903, and then seen on three occasions, July 22 and 24 and August 17, between Lehigh Gap and Slatington. From my observations it would appear that the Blue-bird was practically absent from this region in 1900, 1901 and 1902. At all events it was so scarce as to totally escape notice.

Exit the Dickcissel—A Remarkable Case of Local Extinction

BY SAMUEL N. RHOADS.

THE Black-throated Bunting, or Dickcissel, of the Atlantic coast plain, is a bird of the past. This fact has been emphasized by the experience of the last fifteen years. In that period perhaps a dozen stragglers have been seen or shot in the extensive regions reaching from South Carolina to Maine and from the eastern foothills of the Alleghanies to the Atlantic coast. This large area was, in favored spots, especially in the lowlands, meadows and valley bottoms of the tidal plain, the breeding ground of thousands of this species in the days of Wilson, Audubon, Nuttall, Cassin, Woodhouse and Baird. Even up to near the days when John Krider was preparing his "Forty Years' Notes of a Field Ornithologist," in the year 1879, the once familiar bird lingered in its Philadelphia county haunts. My own first rambles as a full-fledged bird collector in the vicinity of Frankford, Philadelphia, in the years 1877 to 1880, with my friend W. L. Collins, revealed a remnant of the Dickcissel host yet breeding in certain grass and grain fields bordering the old Bustleton turnpike and Castor road a mile outside of Frankford. Two or three fields in that immediate vicinity on the Levick, Shallcross and Comly farms, were the only spots known to me in the whole circle surrounding Philadelphia at that distance, or indeed anywhere in Pennsylvania and New Jersey, where the bird could be taken.

In short, I made the acquaintance of the Black-throated Bunting only three or four years before its final disappearance as a regular summer visitant in Pennsylvania. This fact is confirmed by the list of records accompanying this article, which shows the bird's status in this and other counties of the State and in New Jersey.

In the present paper, it is my intention merely to speak of the bird in its relation to the Delaware Valley. With this object first in view, I soon became convinced that it would be fully worth while to collect all our literature relating to its history in the east Atlantic region with a view to discover, if possible, the causes of its extirpation. This larger subject it is proposed to touch upon in a future paper.

A few words more regarding my personal experience with the bird in our State. A year or two before I ever saw one, Mr. Collins had written to me of it as one of the prizes of his locality. He was about seventeen years old at that time, a year or two my senior, and had recently been entrusted with one of his deceased father's guns. This was cause of much envy, as I had not been allowed the use of any more effective weapon against the poor birds than a "slap-jack." Armed with his gun and a copy of the original quarto edition of Wilson's Ornithology, my good friend soon added the Dickcissel to his catalogue of known rarities.

Three or four pairs of breeding birds seemed to be the total of one season's observations in that vicinity and when we went farther away there were none to be found. I remember seeing the bird on only three or four occasions, and then only when the male mounted a telegraph pole or wire along the Castor road and sang his tireless two-by-three ditty with such provoking regularity that I could not long refrain from firing a stone at him, in spite of my friend's warning to spare him till we could find the much-coveted and rarely-discovered nest. Collins often sat on a fence rail for hours and days in the hot June sun watching a pair of these birds as they capered around the grass fields with the double intention of rearing a brood and fooling him as to the whereabouts of their nests. Frequent were his letters to me touching upon this topic, and if he found one nest in a season he was happy. They usually nested in a full-blown tussock of daisies or the narrow-leaved dock in the open grass fields reserved for mowing. Their nests were placed on or near the ground and the eggs secured were always blue, lacking the subdued spots and lines reported by other observers as sometimes occurring, a condition denied by some but well proven by good authorities in oölogy.

I find by a careful examination of our correspondence during the period between 1877 and 1883 that Mr. Collins' notes on this species represent a most continuous and valuable set of data regarding the status of this bird on the Atlantic coast plain, during its period of final extinction as a summer resident in an area where it was very abundant locally during the lives of Wilson and Audubon. They show too that its disappearance from the Delaware Valley was contemporary with its final adieu as a summer resident in the District of Columbia. Coues and Prentiss, in their list of 1861, call it an abundant summer resident around Washington, but in 1883 they say of it: "Now, however, the bird appears to have forsaken us, few, if any, being heard of for the past few years." In Massachusetts, their northeastern breeding limit, where they never were abundant as in the Middle States, the records show a similar dwindling down to about 1880, all the last breeding records occurring in the seventies. It was my off-hand opinion before consulting these records that the extinction of this species was sudden, indicating a catastrophe during migration or at some critical period in the bird's winter life in the tropics which had involved the whole eastern contingent of Dickcissels. But such does not seem to have been the case. Our earliest accounts of the bird, given by Wilson, Audubon and Nuttall, show it to have been abundant in the Delaware Valley in all places suited to it, especially in meadows and low-lying grass fields in the clay-loam districts, but not in sandy or light soils or at higher elevations.

Briefly stated, it was in such situations a universally common and familiar bird. My friend, Dr. S. W. Woodhouse, who was the companion of Nuttall and other Philadelphia bird-hunters in the early forties, says that this was also the status of the Dickcissel at that time. During the fifties and sixties the records are meagre, but there are enough data to show that the bird was fairly abundant in Connecticut, Long Island, near Hoboken, N. J., and in the District of Columbia, up to late in the sixties and probably later. But in the early seventies, when I first began to take intelligent notice of birds, the Dickcissel was not to be found breeding in any part of Camden county, New Jersey, as in Dr. Woodhouse's time, nor was it known in those parts of

Pennsylvania which I frequented most—Delaware and Chester counties, nor in any other part of Philadelphia county than the one already mentioned near Frankford. We must conclude therefore that a very marked diminution in the number of the Dickcissels had been going on for at least ten or fifteen years previously to 1870. The history of their final decadence in the Delaware Valley is given in the records appended to this paper.

But what has caused this remarkable local decadence and disappearance? This is the paramount query of every one interested in this unique case. I say unique. So far as I can recollect there is no parallel to it in this country where a species of migratory bird inhabiting in summer, two stretches of lowland country separated by a mountain chain but wintering in common territory, should be extirpated from the eastern branch of that breeding area, and at the same time increase in the western one. The persistency of migratory individuals in returning to their natal homes is one of the recognized instincts of birds. On this account we would be slow to believe that the Dickcissel history here recorded indicates merely a *deflection* of the migrating host and not a case of extinction or extirpation. On the other hand, we know of no local causes of decrease. Our native birds of similar range and habits in the Middle States have shown no serious diminution. The English Sparrow and the pot-hunter do not figure especially in the life economy of the Dickcissel. It has been suggested by some that the mowing machine at nesting time did the business. It is true that the great increase in use of mowing machines covers the later period of their disappearance; but it appears they were diminishing before the day of mowing machines. Then again in the west, where they are as numerous as ever in the most highly cultivated regions, the mowing machine is quite as fatal as with us. Why should a mowing machine be more fatal than the old mowing scythe? Both of them cut at or below the level of the average nest of this species, which is generally a few inches above the ground, and often much higher. If it can be proved that the eastern birds always nested on or very near the ground in mowing fields and the western contingent generally in bushes and such places as were not mowed or were avoided, there would

seem to be a solution. I thought I might prove this at one time, and there is data to support such a theory, but enough exceptions have been noted to make it too weak an argument.

Returning again to the migration phase of the question, I would reassert the belief that there was no period during the decadence of the Dickeissel on the Atlantic coast plain where it *suddenly* disappeared again to reappear, as we have known to be the case with the Bluebird in a large part of the same region a few years ago. I doubt not this sudden dearth of Bluebirds was due to a catastrophe which destroyed them during the fall migration or the following winter in immense quantities and probably in a short space of time. I have no records which indicate such a happening to the subject of this sketch. Even if such existed, what are we to say? The gentle Bluebird has re-peopled its old haunts and makes us rejoice in its Phœnix-like indifference to calamity, but poor "Dick" seems to have left us forever. Reasoning upon the all too meagre data at hand may be useless, perhaps it is dangerous, but I would rather believe that the Mississippi Valley stock of Black-throated Buntings had gradually influenced their trans-Alleghany brethren to accompany them in their spring flight to the western breeding grounds than believe that the eastern birds were extirminated. Many local causes may have aided this, but probably the strongest agency for the deflection of eastern birds into western territory must be sought for in their status during winter residence in the tropics and in the meteorological conditions attending the spring migration. But this subject cannot be more than tentatively taken up in such a brief paper as this. I shall hope by these remarks, however, to incite others to a study of it and to elicit more data which lies slumbering in older minds and manuscripts as well as in many a forgotten printed page. If this is forthcoming, I may be heard from again on this theme.

The following notes relate to the Black-throated Bunting, as found in Eastern Pennsylvania and New Jersey:

About 1800–1811. Alexander Wilson, Amer. Ornith., 1811, vol. III, p. 86. "They arrive in Pennsylvania from the south about the middle of May; abound in the neighborhood of Phil-

adelphia and seem to prefer level fields covered with timothy or clover. They nest on the ground. Every level field of grain or grass is perpetually serenaded with chip, chip, che, che, che. In traveling through different parts of New York and Pennsylvania in spring and summer, whenever I came to level fields of deep grass, I have constantly heard these birds around me."

1825–1832. Thomas Nuttall, Manual Ornith., 1832, vol. I, p. 461. "These birds arrive in Pennsylvania and New England from the south about the middle of May and abound in the vicinity of Philadelphia," etc. Evidently based on Wilson, above. In the early forties, Dr. Woodhouse used to observe this bird abundantly in his walks with Nuttall around Philadelphia and adjoining counties.

1825–1835. Audubon, Ornith. Biog., vol. IV, 1838, pp. 579, 580. "Although this handsome Bunting may be said to be abundant in our middle Atlantic districts, it is much less so than in the vast prairies of the southwest. * * * Abundant on the open lands of Missouri and Illinois, but rarer in Ohio and scarce in Kentucky. They are rarely observed to pass over South Carolina but in Pennsylvania they are plentiful, and there breed in every field covered with grass or grain. I have also met them in Massachusetts, but beyond this they are not to be seen to the eastward." In late summer, "I once went from Philadelphia in search of them, accompanied by my friend Edward Harris and my son John Woodhouse. Having reached Salem, in New Jersey, we rambled some time in the neighborhood and found an elevated piece of ground, closely covered with high rush weeds, among which a great number of these birds had assembled. It being late in July, the males were moulting," etc. "These birds are very partial to particular localities. Sandy soil, unmixed with clay or earth, is not favorable to them, and it is probably for this reason that none are found in any purely sandy part of the State of New Jersey."

1844–1845. S. F. Baird, Catalogue of Birds near Carlisle, Cumberland county, Pa., Silliman's Amer. Jour. Sci., 1844, and Lit. Rec. Linn. Assn., Pa. College, 1845, p. 253. "Common, summer."

1840–1850. Dr. S. W. Woodhouse: "Philadelphia, Decem-

ber 28, 1903. Dear Mr. Rhoads: In reply to your question in regard to the Black-throated Bunting, I would state that in the forties, when I was so much in the country and closely observing the habits of our birds, it was very common and was to be seen and heard in every grass field in the eastern portion of this state [Pennsylvania]." Dr. Woodhouse also tells me that it was found in Camden county, N. J., in almost equal numbers at that time. After the year 1850, he was not engaged in this field.

1850–1860. F. M. Chapman, Auk, 1891, p. 395. "Mr. C. S. Galbraith informs me that forty years ago the Dickcissel was a common summer resident near his home at Hoboken, N. J."

The continuity of our notes is here badly broken. Data regarding this period is particularly desirable. It covers a time when the activities of Delaware Valley ornithologists were at a standstill.

1860. Vincent Barnard. Birds Chester Co., Pa., Ann. Report, Smithson. Inst., 1860 (1861). "April 27 to May 3." This note refers to the dates of their arrival during ten years' observations in the county. See also his manuscript note under C. J. Pennock below.

1862. John Cassin, in Smith's History Delaware Co., p. 438. "Frequent."

1863. Ezra Michener. Birds Chester Co., Pa., Report U. S. Dept. Agric., 1863, p. 303. "Summer resident. Common."

1868. W. P. Turnbull. Bds. East Pa. and N. J. "Plentiful."

1868. C. C. Abbott, Geol. N. J. (Cook), p. 779. "Rare. Appears in meadow lands in May, but none probably remain during the summer. Re-appears in September, and remains for several weeks, in few numbers."

1869. Libhardt in Mombert's History Lancaster Co., Pa. "Resident—frequent. Breeds in the county."

1870–1871. Thomas H. Jackson: "West Chester, Pa., December 31, 1903. I regret to say that I can give little information concerning the 'Dickcissel.' The only eggs (a set of 6) in my collection were taken near Lancaster, Pa., by Chas. H. Nauman about 1870. With the exception of a single specimen seen and heard near West Chester a year or two later I have no recollection of any occurrence here."

1871. C. F. P[hillips], Forest and Stream, vol. VI, 1876, p. 67. "A nest with eggs found July 4, 1871 near Avondale [Chester Co.], Pa."

1874. Witmer Stone. "Nest and eggs taken near Eagle Hotel, Radnor Twp., Montgy. Co., Pa., in 1874, by D. N. McCadden and Geo. C. Thayer—eggs in Mr. Thayer's possession." Mr. McCadden tells me further that the nest was in a currant bush in a garden; and was very conspicuous because of being made of bleached green grass. The bird was a rare species in that region, even then.

1871–1875. Charles J. Pennock, in letter of December 30, 1903. "This bird was fairly abundant in southern Chester county, Pa., up to 1875 but seemingly locally distributed as to breeding places. I recall two localities where we always expected to find the birds in nesting season, one near the village of Avondale, where nests were found in the Osage Orange hedge at roadside, the other locality was one-half mile south of Kennett Square. I have frequently heard the male singing from a few scattered trees or bushes by the roadside but never found a nest. I moved away from the neighborhood of Kennett Square in spring of 1875, returning spring of 1880, since which time I have never seen the bird in this county. Vincent Barnard, in MSS. on Birds of Chester county in my possession about 1860, lists it as 'Known to be a Chester county bird,' and indicates it as being in his collection. In Dr. Warren's list of the Birds of Chester county, Pa., Forest and Stream, February 5, 1880, he says, 'Rare, arrives April 27th to May 7th, I have never known it to breed.' In his list of breeding birds of Chester county, Pa., from Daily Local News (newspaper), September 3, 1885, he says, 'This species seems to be somewhat plentiful in the southern portion of the county during the summer,' but I suspect he was inferring this from old records of Michener, Barnard, etc." Mr. Pennock further tells me he never saw the bird in Pennsylvania after 1875, having gone to Ithaca, New York, for a few years' schooling, during which time it became extinct in his home locality. He first became acquainted with it about 1871, and never knew of more than two or three pairs which always affected certain spots.

1876. J. Thomas, in Davis' History Bucks Co., Pa., Appendix, p. 33. "Occasionally seen."

1876. Thomas Gentry, Birds E. Penna., vol. I, p. 328. "Tolerably abundant in eastern Pennsylvania." Mr. Gentry evidently does not make this and his following remarks on the Dickcissel from personal experience. It is more a record of its past history than of conditions in 1876.

1877. The following specimens were all taken by my friend W. L. Collins in the immediate vicinity of his home near Frankford at Bustleton pike and Castor road:

June 4. Nest and 4 eggs in grass field along Castor road at foot of daisy tussock. Eggs advanced in incubation.—Collins.

Aug. 25. Yg. female.—Collins. In Coll. of Witmer Stone.

Aug. 30. Ad. male.—Collins. In Coll. of Witmer Stone.

1878. W. L. Collins. The following notes are quoted from letters written to me by Mr. Collins:

May 19. "There seem to be quite a number of *Euspiza americana* about here this season."

June 2. Two males collected in the past week.

June 4. Just as we [Trotter and Collins] had got out of our lane [Levick farm] into the Castor road we saw a pair of blackth. buntings." After describing the actions of the birds near their nest in the field he states, "I knew there was a nest at the foot of the daisy bunch, so over I went and there, sure enough, was a beautiful nest with 5 nice blue eggs in it."

1879. Spencer Trotter, Bull. Nutt. Ornith. Club, vol. iv, p. 235. "A few pairs of these birds breed regularly every year in a small area of country north of Philadelphia [Levick and Shallcross farms near Frankford], but in no other locality in this neighborhood have I authentic information of their being seen. In former times this bird was quite common here, but has now become comparatively scarce."

See also Trotter in Forest and Stream, vol. xii, No. 2, p. 25, for similar statements.

1879. John Krider, Forty Years' Notes Field Orn., Phila., 1879, p. 49. "Many years ago this was a very common bird about Philadelphia, but for some seasons it has become rare."

1879. W. L. Collins. In letter June 3 "shot a male *Euspiza* but lost it."

1879. Dr. W. L. Abbott. A specimen obtained by him near Chestnut Hill, Philadelphia, June 7, is in the collection of the Academy of Natural Sciences.

1879. Spencer Trotter. A female taken by him June 13, near Frankford. Now in Bryn Mawr College Collection.

1879. Spencer Trotter, Bull. Nutt. Orn. Club, vol. iv, p. 235. "A few pairs of these birds breed regularly every year in a small area of country north of Philadelphia, but in no other locality in this neighborhood have I authentic information of their being seen. In former times this bird was quite common here, but has never become comparatively scarce.

1879. W. L. Collins. In letter June 15. "Spencer and I went after birds a little while in the afternoon and succeeded in getting a female Black-throated Bunting."

June 29th. "I found a nest of *Euspiza americana* in the orchard [Levick's] which had been cut down by the mowing machine."

1879. W. L. Collins, The Friend, Phila., vol. 52, 1879, p. 114. "Though this bird may not be familiar to most readers of the Friend, it is not by any means rare in some of the states, though in the eastern portion of our own [Pennsylvania] it is not frequently met with. It appears to inhabit certain localities, while in others it is rarely seen. For instance, there is a district of country about six miles north of Philadelphia where some five or six pairs of the species can be seen every summer, and these birds are confined to an area of not more than one mile square. * * * They make their appearance in Pennsylvania from the south about the 12th of 5th mo., and commence nest building about the 1st of 6th mo. * * * The nest is placed in a bunch of daisies or burdock, generally three or five inches from the ground, and is composed of fine dried grass and the roots of plants. It is lined with horse-hair. The eggs, which are four or five in number, are of a uniform pale bluish color, about the size of a Bluebird's."

1880. W. L. Collins, in letter. July 2. "Went up to Bustleton on horseback about a week ago. Saw a great many *E. americana* on the way."

1881. W. L. Collins in letters. July 10. "Heard a

Euspiza americana this morning. They are getting rather scarce about here. I should not be surprised if in a few years they would disappear entirely from this neighborhood."

October 7. "I did not see one this summer, though I did hear them several times."

1882. W. L. Collins in letter. Last May or early June. "I have not seen nor heard a Black-throated Bunting this season."

1888. Dr. J. Percy Moore, of Philadelphia, furnishes me the following from his journal. The locality is in Montgomery Co., Pa. Under date of May 13, 1888, the following is recorded: "A pair of Black-throated Buntings were seen here," and further on "In a grassy meadow along Mill Creek not far from Merion Square a male Black-throated Bunting was observed on the ground apparently feeding on fallen seeds. He perched on a small bush and chirped for a few moments and then flew into a thicket, probably to seek a roosting place as the sun was getting low." Dr. Moore writes me in addition as follows:

"The first observation was made in a meadow along the Old Gulph road near Arrowmint creek in Lower Merion township, and among cultivated fields. At the time I was much engrossed in watching the antics of courting Bobolinks which were common that morning in the small trees and bushes along the fence rows, and the duller birds evidently did not draw my attention for more than a passing moment from their fascinating competitors. I am quite certain that the Black-throated Bunting was seen on other occasions in the same region, but the above are the only references in those portions of my notes which have been indexed."

Extraordinary as these notes may appear, so long after the disappearance of the bird from that region, I have no reason to doubt the correctness of Dr. Moore's identification. He tells me that there was an unusually large wave of migrants passing through that day, and that he did not think the Dickcissels were anything but migrants. They are known to associate with Bobolinks in their winter home as well as in the fall migrations, and were no doubt going farther north. Such spasmodic appearances of migrants are to be looked for, but are rarely noted.

1890. Witmer Stone, Auk, 1891, p. 245. "One bird in immature plumage obtained from a gunner who shot it with Reed birds on Maurice River, New Jersey, September 18. Now in the collection of W. L. Baily, Philadelphia, Pa."

Stone, Birds Eastern Pa. & N. J., 1894, p. 421. "Twenty years ago this was a common species in certain parts of New Jersey and eastern Pennsylvania, though always of local distribution."

FROM BIRD LORE, VOL. IV, NO. 1.

THE SALEM CROW ROOST.

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PHOTOGRAPHED BY MOONLIGHT JANUARY, 1901, BY CHARLES D. KELLOGG. (EXPOSURE 10.30 TO 11.30 P.M.)

Crow Roosts and Flight Lines in Southeastern Pennsylvania and New Jersey

BY HERBERT L. COGGINS.

"The black'ning train of Crows to their repose."—*Burns.*

If for no better reason than mere local pride the subject of winter Crows and Crow roosts should be one of prime importance to every member of the Delaware Valley Ornithological Club. For undoubtedly the region surrounding the lower Delaware Valley, besides affording a home for the body already mentioned, contains more winter Crows than any equal area in the country.

To one who is sufficiently gifted in the way of imagination the study of our local Crow roosts might distantly be likened to a golf ball. The first impulse to this visionary sphere was given in 1886 by Mr. S. N. Rhoads, whose vigorous drive, "Crow Roosts and Roosting Crows," sent it well on in its course. Then as if lost, it lay motionless for nearly ten years.

The next stroke was from the arm of Mr. Witmer Stone. As a preparation to this new impetus to the science of 'Crowology,' government postmasters, respectable private citizens and lighthouse keepers, who were suspected of possessing any information upon the subject of Crows, were promptly and effectually besieged, and as a partial and visible result of these investigations was the article on the Reedy Island Roost that appeared in Bird Lore of December, 1899.

The bulk of the information gathered together by Mr. Stone, as well as much secured by Mr. Rhoads and Mr. Joseph W. Tatum, has remained untouched, until at the request of the editor of Cassinia the writer undertook to confirm its accuracy as applied to present conditions, and to prepare it for publication.

Whatever may be the final judgment of the farmer and the Department of Agriculture as to his economic worth, the Crow

himself, his personality, has never been done justice. It is true that for the convenience of our own mind we have raised him to a co-partnership with the industrious bee in the symbolic representation of a straight line. But with the farmer we have also written him as a destroyer of crops. We think of him as a rogue, a loud-mouthed roister, the personification of craft, of arrogance toward man and beast.

And yet in my own memory arises a very different vision. It is a snow storm on the Delaware meadows. All is white, and save for the wind, silent. A powdery snow sifts monotonously down from a gray, cloudy sky. Now caught up by a cold wind it is hurled into my face with a blinding force, before which I bend my head and close my eyes. Again with a sudden change of wind the air is cleared partially before me and I see the vague outlines of distant trees and even the dark lines of the river beyond.

Suddenly, and with no more noise than the flakes themselves, a thousand spectre-like objects rise from the snowy ground before me. There is no outburst of indignation. They take wing wearily, as if in a stupor. They rise hesitatingly and struggle piteously against the wind. Some turn and are borne before it; others flutter vainly, waver and are swept backward by an irresistable force—thrown as it were into the drift beyond.

Crows? The shadows of Crows, rather! The spirit, the arrogance, is gone. Poor, starved, benumbed creatures. No wonder they do not resent my intrusion. Nature has taught them to endure suffering.

This, then, is the other side of Crow-life. Buffeted by winds, at the mercy of snow and starvation and man, thus hordes of them perish each winter.

But contrary to what their presence in winter might indicate, crows are partially migratory. The thousands that gather along the Delaware river each year doubtless come, in a large part, from the north. For winter quarters, they seek the low-lying river-valleys, where the snow melts quickly and where the tides offer at least a scanty supply of food. There are many such areas drained by the rivers which empty into the Delaware and Chesapeake Bays, and here, in the east at least, is the centre of the winter Crow population.

During the day, Crows forage for food. Separating in clans, as it were, they distribute themselves throughout the country. Then toward sunset, as if in response to some mystic call, they betake themselves in flights to the roosts, sometimes many miles distant.

Although the most characteristic trait of Crows, the roosting habit has received but comparatively little attention from ornithologists. For those who have never visited a roost and so observed one of Nature's most interesting phenomena, we can do no better than to quote Mr. Stone's account* of a visit to such a winter colony in the neighborhood of Salem, New Jersey:

"It was just dusk as we hitched our horse and entered the woods; there was still no sign of Crows, but as we emerged on the farther side we found that an immense flight was just beginning to pass overhead from the westward, evidently the river Crows had concluded that bed-time had come. They did not, however, alight in the trees, but passed over and dropped noiselessly into the low fields just before us, seeming to select a black, burnt area on the far side. To our amazement this 'burnt' area proved to be a solid mass of Crows sitting close together, and in the gathering gloom it was difficult to see how far it extended. Four immense flights of birds were now pouring into the fields, in one of which we estimated that 500 Crows passed overhead per minute during the height of the flight.

"It was now quite dark, and we began to think that the birds had no intention of retiring to the woods, so determined to vary the monotony of the scene and at the same time warm our chilled bodies. We, therefore, ran rapidly toward the nearest birds, and shouted together just as the first took wing. The effect was marvellous; with a roar of wings the whole surface of the ground seemed to rise. The birds hovered about a minute and then entered the woods; we soon saw that but a small portion of the assemblage had taken wing. Those farther off had not seen us in the darkness, and doubtless thought that this was merely the beginning of the regular nightly retirement to the trees. The movement once started, became contagious, and the

*Bird Lore, December, 1899.

crows arose steadily, section by section. The bare branches of the trees which stood out clearly against the western sky but a minute before seemed to be clothed in thick foliage as the multitude of birds settled quietly down."

The evening flight lines converging to the various roosts are a familiar feature of the winter in most of the country districts in the Delaware and Susquehanna valleys.

Though the flights passing into the nearby roosts have for years given the built-up portions of Philadelphia a wide berth, in old days they seem to have occasionally come into the very heart of the city. A communication made before the Academy of Natural Sciences by John Cassin, January 21, 1862, described a rather unusual occurrence of this kind; and fortunately in the History of North American Birds Dr. Brewer has given us the account as he heard it from Cassin's lips, though he has somehow transferred the date to April, 1868, a time of year when the Crows have scattered from their winter flocks.

He says: "On a Sunday morning when Philadelphia was enveloped in a fog so dense and impenetrable that it was hardly possible to distinguish objects across the street, Mr. Cassin's attention was attracted to an immense accumulation of these birds in Independence Square. The whole park he found to his utter astonishment occupied by an immense army of Crows. They filled all the trees, bending down the overloaded branches, and swarmed over and covered the ground. The entire space seemed alive with Crows. They had evidently become bewildered in the fog and had strangely taken refuge in this small park in the very heart of Philadelphia. As if aware of their close proximity to danger, the whole assembly was quiet, orderly, and silent." Scouts from time to time went out and returned as if to get their bearings, and eventually "the whole of the immense congregation, numbering, Mr. Cassin estimated, hundreds of thousands, rose slowly and silently, preceded by their scouts, and moving off in a westerly direction, were soon lost to view."

For records of the famous old roosts, notably those of Pea Patch and Reedy Islands in the Delaware, we need only refer to the accounts of Wilson and Audubon. Just how many other roosts there were in the early days of the past century it is hard

to say, but certain it is that there are a large number to-day, and probably many that have not yet come to our notice.

Whether this indicates a breaking-up of the larger roosts on account of molestation is a question that we are not prepared to solve, since there does not seem to be any data available to show whether any of the roosts have suffered diminution or not. Certain it is that we have secured evidence of Crows roosting to-day in small companies or singly in various places, but here again we cannot say but that investigations such as we have made, if carried on fifty or a hundred years ago, would have brought to light similar conditions.

In collecting the data here presented there were two objects in view; first, to ascertain the location and any interesting facts relating to Crow-roosts and, secondly, to learn the direction of evening flight at as many points as possible. In most neighborhoods there is within a few miles a regular line of flight which the Crows travel night after night and year after year in seeking their winter roosting-place, following an invisible pathway that takes them always across the same field and frequently indeed over the same fence panel with almost mathematical precision.

Arrows showing the evening flight-lines at various points would, when plotted on a map, obviously point to the various roosts and give some idea of the country which each one "drained." This was the plan which we had in view and the accompanying map shows its realization so far as a part of the country studied is concerned. Other roosts and flight-lines which are tributary to them are described beyond. We may note as a point of interest that there seem to be no roosts in the pine-barren region of New Jersey, all the roosts in that state being in the Delaware Valley region west of the barrens.

To the many correspondents who have aided in compiling this data the writer would express his indebtedness.

DESCRIPTION OF ROOSTS REPRESENTED ON THE ACCOMPANYING MAP.

1. *Merchantville, Camden Co., N. J.*

This is the nearest roost to Philadelphia and has for years existed in oak and chestnut woodland near Merchantville, a few

miles northeast of Camden. It is the one described in Mr. Rhoads' paper, American Naturalist, 1886, p. 785, and is still the winter rendezvous for thousands of Crows. The exact roosting spot has changed once or twice within the past twenty years, from one patch of woodland to another, but a short distance off, both lying south of the town. Crows fly to this roost from Mount Ephraim, Haddonfield, Colestown, Moorestown and League Island, while they formerly crossed over from Olney and Frankford, flying high in the air. This latter flight has now ceased, owing to the fact that the Crows no longer find a feeding ground to the northeast of Philadelphia, where buildings are rapidly spreading.

2. *Valley Forge, Chester Co., Pa.*

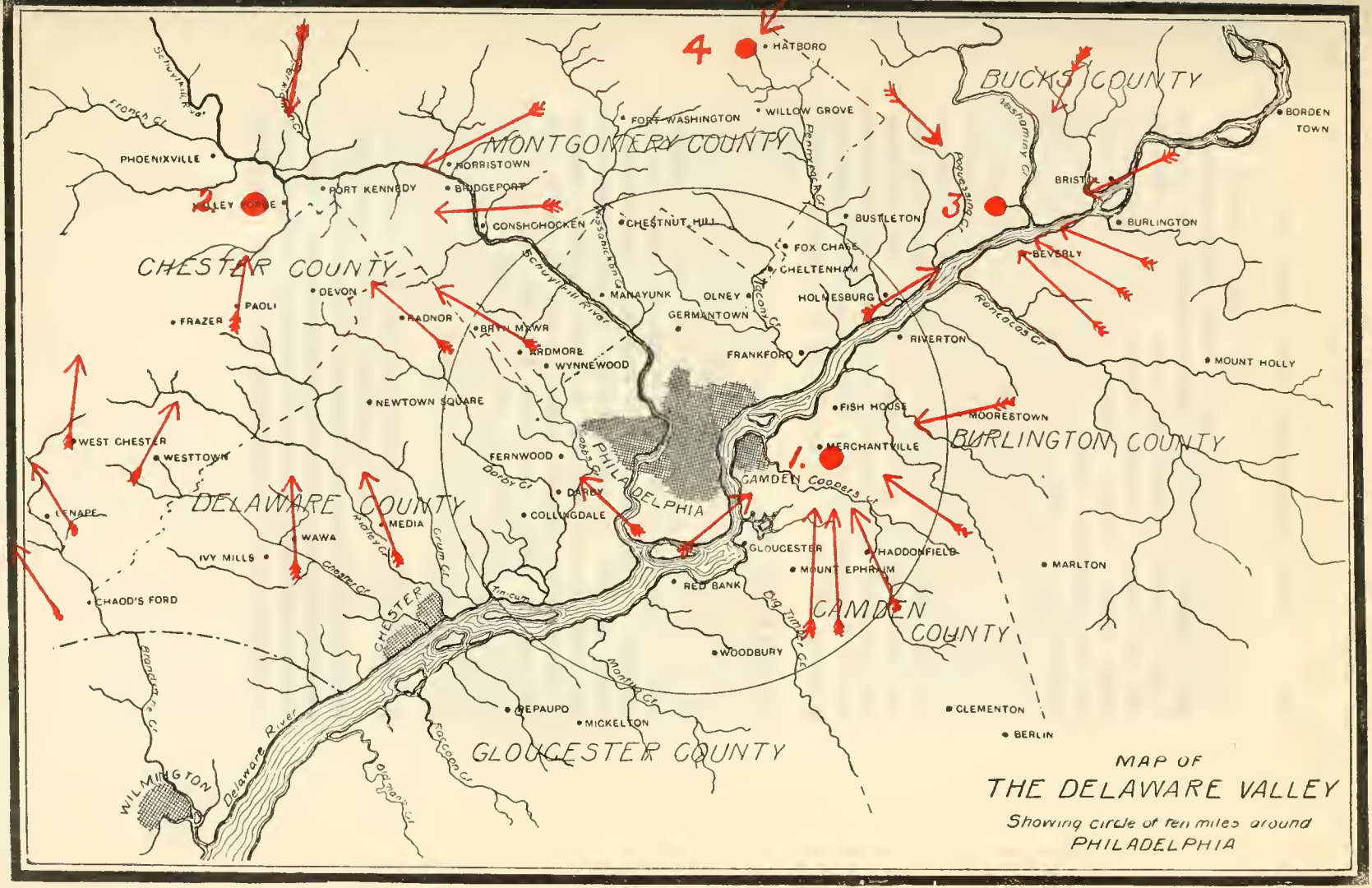
Although not mentioned by Mr. Rhoads, this roost is a very old one. Its location, however, seems to have shifted somewhat.

Dr. W. E. Rotzell sends us the following information regarding it:

"The roost is now located at Diamond Rock, in the North Valley hills about two miles west by southwest from Valley Forge. I think I first visited the roost in 1899, and subsequently in 1900 and 1901. It was located in chestnut woods and occupied probably ten acres, shifting from place to place as the birds were disturbed. The wooded area in this region extends over the hills for miles. The Crows come from all points of the compass for miles to reach this roost. I have noted them as early as 3:30 p. m. six miles to the southward going towards it. By 4:30 many flocks may be seen flying in various directions about the roosting-place often going a mile or two in an apparently uncertain manner and finally returning to the roost. As to the number of birds I would not pretend to guess, there must have been thousands and thousands, and at times they blackened the sky."

Replies to inquiries regarding flight-lines show that the Crows seek this roost from Shannonville on the Perkiomen, Port Kennedy, Norristown, Conshohocken, Bryn Mawr, Radnor, Devon, etc., as well as from Wawa and Westtown, and possibly from West Chester.

Some of the League Island Crows are also reported to fly in this direction at night.



CROW ROOSTS AND EVENING FLIGHT LINES IN THE VICINITY OF PHILADELPHIA.

1.—MERCHANTVILLE ROOST. 2.—VALLEY FORGE ROOST. 3.—BENSALEM ROOST. 4.—DAVIS GROVE ROOST.

3. *Bensalem, Bucks Co., Pa.*

A roost accommodating a large number of Crows situated in oak and other deciduous woods north from Eddington Station and east of Byberry. Located and visited in winter of 1902–3 by Thomas D. Keim, who was informed by residents that the roost had been in use for a number of years. Crows fly hither from Woodbourne, Bucks Co., also from Holmesburg, and other points down the river, and from New Jersey, crossing southwest at Bristol, and at points between Beverly and Burlington; at Rancocas the Crows also fly to this roost. Dr. Joseph D. Abbott writes that formerly at Bristol they flew the other way, at evening crossing the river into New Jersey. This was probably at the time that the Hainsport roost was still in use, and would indicate that the Crows forming the latter colony had transferred their quarters to this spot. The Hainsport roost was visited by Mr. Rhoads, and a further account of it is appended, furnished by Mr. Thomas J. Beans. He writes as follows:

"The roost was located on the creek road and the Rancocas creek. There were about sixty acres in the tract. It is now cleared and farmed. It was a very large roost, and the evening flights were from Pennsylvania, from the N. E. and S. E. mainly, though they seemed to come at times from every point of the compass. You know Crows have a habit of alighting a short distance from the roost before entering. They used, many of them, to alight on our place, one mile away, and noisily discuss subjects of interest to Crows. Gunning parties would go to the roost at night and shoot them in great numbers, and finally drove them away. Whether they have an hereditary dread of the locality I do not know, but save a few breeding birds, no Crows are to be seen here, and there is no line of flying birds at evening."

Dr. Charles C. Abbott, from his home south of Trenton, writes under date of October 19, 1898, as follows:

"The daily to-and-fro movement from roost to feeding-grounds and return commences about September 15 here, and from my point of view is eastward in the morning and westward in the afternoon. As to hours, from dawn to 11 a. m. eastward, and

from 2.30 p. m. to dark westward. To be more explicit, the Crows used to roost at the river shore at Florence Heights up to *circa* 1860–62, and gathered there from Jersey (eastward), but whether other Crows came from over in Pennsylvania to this roost I do not know. For as far back as I can trace, over a century, Crows in this immediate neighborhood always spread over Jersey in the forenoon, coming eastward, from the river or from across it, and the afternoon flight was always westward or towards the river. It was about 1860–62 that the Florence Heights roost was destroyed, and then as I am told, the Pigeon Swamp roost was greatly increased by the Jersey Crows joining them. The great original roost was and a trace of it still is in the Pigeon Swamp, near Bristol, Pa."

Perhaps the "Pigeon Swamp roost" mentioned by Dr. Abbott is the one here referred in Bensalem township, but we can find no evidence of any roost in the Pigeon Swamp now or for some years back. It is, on the other hand, possible that the Crows crossing at Trenton go to the Davis Grove roost.

Whether the five roosts here mentioned existed together or whether the Davis Grove, Pigeon Swamp and Bensalem roosts one or all owed their foundation to the breaking up of those at Florence Heights and Hainsport we cannot say; but only two of the five seem now to be in existence.

4. *Davis Grove, Montgomery Co., Pa.*

One of the largest and most important roosts.

In 1886–7 a large number of Crows also roosted near Warringtonville on the farm of Isaac Warner, while others made use of the hemlocks on the Almshouse farm at Doylestown. These latter are probably mere branch colonies from the main roost. So far as we can learn the roost is still in use and flights from Doylestown and Fort Washington are directed toward it.

5. *South of Downingtown, Chester Co., Pa.* (?)

The evening flight at Downingtown is south according to Dr. Howard Y. Pennell, and this coupled with the northward flight at West Chester would seem to indicate another roost somewhere midway between these places. No further evidence of such a roost is in our possession however.

ROOSTS OUTSIDE OF THE DISTRICT COVERED BY THE MAP.

The country covered by the following list is so extensive that there is little doubt but that a number of other roosts exist within its limits which are still to be located by the ornithologist:

6. *Coatesville, Chester Co., Pa.*

Mr. Hugh E. Stone, who visited this roost in 1895, writes as follows:

"The roost is about a quarter of a mile from here on a wooded ridge about half a mile long, running parallel with and a short distance south of the Pennsylvania R. R., between Coatesville and Pomeroy. The wood is of oak and chestnut timber, most of the trees being about forty feet high and covers the top and northern slope of the hill.

"Yesterday (January 29), when I visited it, the snow which covered the ground was completely coated and discolored with the droppings of the birds, and this not in small patches only but all over the ground for hundreds of yards. At this season the Crows begin to arrive about half past four and continue to stream in from all directions until dark, the greatest numbers seeming to come from the southeast.

"They settle on the trees at either end of the wood, seeming to prefer the ends to the middle and keep up until dark a clatter that can be heard a mile away.

"Last evening I visited the roost about dusk and had no trouble in approaching quite near the trees without disturbing many of the Crows which seemed quite stupid and sleepy. I cannot understand why the birds should have selected such a cold and unprotected wood for their roost." As to its former location we learn from Mr. Thos. H. Windle that "The roost was formerly on the north valley hills, a quarter of a mile north of Coatesville (prior to about 1890). The reason for the change was because they were annoyed by gunners who visited the roost after dark. Number of birds estimated at 30,000 to 50,000." Later Mr. Stone writes that the birds have again crossed the valley to the north hills, where they have now roosted for several years. Crows fly to this roost from Kennett Square, Timicula and Mortonville, Chester Co., and probably also from

Lenape, while a number of other flight-lines converge from the north and west.

7. *Milton, Sussex Co., Del.*

Mr. Jos. M. Laup states that "there are winter Crow roosts in the vicinity of Milton, on the farms of Wm. W. Conwell, Greenbery W. Betts, David M. Robbins and David H. Wiltbank. The number of birds is almost innumerable but the best estimation we can give for those which use the Conwell farm would be 2,500 to 3,500. The woodland on this farm comprises about ten acres, most of which is pine and large shrubbery."

8. *Fishing Creek, Cape May Co., N. J.*

Mr. H. Walker Hand states that there was formerly, and probably still is, a roost near the head of Fishing creek, on the bay shore of Cape May county, and that Crows feeding on the meadows at Dias creek and northward flew south at night to this roost.

9. *Salem, N. J.*

A very large roost about two miles south of Salem in low, oak woodland. This was visited in January, 1899, by Mr. Witmer Stone and described by him in Bird Lore for December, 1899. Later, Mr. Chas. D. Kellogg succeeded in photographing a section of the roost (see accompanying plates). It seems probable that this is the successor of the Reedy Island roost, as the latter location was deserted when the quarantine station was built. Mr. Geo. W. Jones, keeper of the Reedy Island light, writes that the Crows now pass over the island from Delaware to New Jersey, but few stop and then only in very stormy weather.

10. *Alloway, Salem Co., N. J.*

A small roost comprising several thousand Crows is located near Alloway station, northeast of Salem, and was in use in January, 1899, when it was visited by Mr. Stone. We have no data as to the flight-lines toward this roost. It would appear, however, that the birds do not come from the west, as Crows for some miles north of Salem fly south at night to the large roost.

11. *Ash Swamp, Union Co., N. J.*

Mr. Dennis C. Crane writes: "As long as I can remember,

Crows have every winter roosted in some part of Union Co. Years ago I can remember they roosted in Linden township, in a ten-acre piece of young oak, elm, maple and other hard wood, in low, wet ground, somewhat isolated. The trees were close together and the underbrush was so tangled that it was impossible to go through except in a few cow-paths. For some years back they have chosen some woods between Fanwood and Clark township, near Ash Swamp. As to numbers, it is hard to estimate. I should say I have seen the above ten-acre woods covered at the rate of ten to every ten feet square. I have every morning and night, for one hour, seen them pass over our house (Westfield, N. J.), the flock averaging two hundred feet wide and continuous in length. I should say 500 in every square of 200 feet, or in every acre of space. Every minute 500 would pass overhead.

"In March they have their pow-wows or mating-parliament in some large, open fields. I remember a field near our old home in Linden township which seemed a favorite meeting-place; a flock of one thousand or more would alight there every pleasant day and seem to discuss and arrange for the coming summer. There would be a spell of jabbering and then a chorus of 'caw, caw,' at the same time flying up and around to some extent and alighting again, apparently confirming, ratifying or rejoicing over some subject they had under consideration."

12. *Pt. Pleasant, Bucks Co., Pa.*

In the winter of 1886–7 thousands of Crows roosted in low woods on the farm of John Myers near Pt. Pleasant, Bucks Co., Pa., and the spot was reported to be still in use in 1894–5.

13. *New Holland, Lancaster Co., Pa.*

M. B. Hutchinson writes: "We have a place two and a half miles south of New Holland where Crows congregate during the evenings in winter. The ground covered is about one mile long and about three-fourths of a mile wide. It is covered by many cedar trees in a ravine, sheltered from the north wind by a high hill. The number of Crows may vary from a thousand to five thousand. They generally fly to their roost in a south, southeast or southwesterly direction. During a storm or approach of a storm, their flight is quite close to the ground.

"There is, or used to be, a large roost in the northern end of Martic township, along the Susquehanna river, but I cannot now give you information about it as I have never seen it."

14. *Mountville, Lancaster Co., Pa.*

Prof. H. Justin Roddy reports: "There is a very large Crow roost near Mountville, Lancaster county, about four and a half miles northwest of Millersville, and when I last visited it the grove in which the Crows roost was black with the birds for quite a distance. The area of the roosting grove was not less than twenty-five or thirty acres, and all the available space on the branches seemed taken up by the roosting birds. The point is located about the center of an extensive farming region, comprising Lancaster county wholly and the eastern half of York county. This causes the birds to flock towards it from all points. The Crows, however, converge towards the roost along probably four important radii, and of these the most important line of flight was, and is yet, from the east or a little north of east from the Welsh Mountains along the Neffsville hills—an eastern extension of the Chiques hills.

"In mid-winter, when the wind is high, the flight of the Crows is very interesting; the birds screening themselves from the wind by flying on the southeast side of the hills and their crowning woodlands. The flight reaches Neffsville, five miles northeast of Mountville, at about 3 p. m. on windy days and at about 4 p. m. on calm days. The morning flight along these hills is not so well defined.

"The flight from the north I used to watch from Elizabethtown, fifteen miles north of Mountville, and at one time, in 1882, I counted 12,000 Crows passing over a hill near the town."

15. *Long Level, York Co., Pa.*

Mr. J. Jay Wisler writes: "In York county, from the post-office known as Long Level, southward some eighteen or twenty miles down the river and among the river hills in sheltered valleys, there are said to be a number of Crow roosts. I have never had the opportunity to visit these roosts in the evening, but I saw one of them in the middle of the day and of course there were no birds there at that time, but from the droppings there must have been large numbers of Crows roosting

FROM BIRD LORE. VOL IV, NO. 1.

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THE SALEM CROW ROOST.

PHOTOGRAPHED BY MOONLIGHT JANUARY, 1901, BY CHARLES D. KELLOGG.

(EXPOSURE 4 TO 5 A.M.)

there for many years. This place is on the northeast side of a hill, about seven miles below Columbia, on the York county side of the Susquehanna, and perhaps half a mile from the river. The other roosts farther down I know only from hearsay. From Columbia the Crows fly southwest as evening approaches, crossing the river towards the above location."

SUMMARY.

Summarizing the preceding list, we have the following known roosts which are all believed to be occupied at the present time:

Merchantville, Camden Co., N. J.
Valley Forge, Chester Co., Pa.
Bensalem, Bucks Co., Pa.
Davis Grove, Montgomery Co., Pa.
Coatesville, Chester Co., Pa.
Milton, Sussex Co., Del.
Fishing Creek, Cape May Co., N. J.
Salem, Salem Co., N. J.
Alloway, Salem Co., N. J.
Ash Swamp, Union Co., N. J.
Pt. Pleasant, Bucks Co., Pa.
New Holland, Lancaster Co., Pa.
Mountville, Lancaster Co., Pa.
Long Level, York Co., Pa.
And a possible roost south of Downingtown, Chester Co., Pa.

The deserted roosts are as follows:

Beverly, N. J., deserted 1884 (Rhoads).
Bridgeboro, N. J., deserted 1881 (Rhoads).
Centertown, N. J., deserted 1885 (Rhoads). This was so close to the Hainsport roost that it must have been merely a shifting of the same body of birds.
Hainsport, N. J., deserted 1888 (about).
Newbold's Island, Delaware River, deserted 1866 (Rhoads).
Florence Heights, N. J., deserted 1841 (Rhoads), 1860–2 (Abbott).
Pea Patch, Delaware River, deserted 1816 (Rhoads).
Reedy Island, Delaware River, deserted at the time the quarantine station was built (since 1886).

Pigeon Swamp, near Bristol, Pa., deserted (?) (Abbott).

Camp Hill, Montgomery Co., Pa., deserted 1878 (Rhoads).

Medford, Tabernacle and Burlington Island, N. J., roosts mentioned with queries by Rhoads. We can find no records of these and it is doubtful if roosts ever existed at any of these localities.

The roost entered in the list on p. 12, Bull. 6, U. S. Dep. Agric., Div. Ornith. and Mamm., as "Lancaster, Montgomery Co., Pa.," is intended to denote one six miles south of Lancaster, Lancaster Co., Pa., described by S. S. Rathvon in the American Naturalist, 1869, p. 102. Whether it still exists we have been unable to ascertain.

Water Birds of the Middle Delaware Valley

BY HENRY W. FOWLER.

At the time of the publication of Mr. Stone's "Birds of Eastern Pennsylvania and New Jersey," the Club was much in need of definite information regarding the water birds of the Delaware valley. Knowledge of this nature seems still to be a desideratum, and as the writer has for some ten years past paid considerable attention to the water birds of the river north of Philadelphia—from Holmesburg to Bristol—the following list, embodying his observations, is offered as a contribution to a subject already too long neglected.

Records published in the above-mentioned work are omitted, but those scattered through the pages of the Club's Proceedings since 1894 are included, as well as much important data furnished by Mr. Richard F. Miller, Mr. Thos. D. Keim, Mr. L. V. Morris, of Bristol, and reliable gunners whom I have interviewed. Mr. Miller's observations relate chiefly to Bridesburg and Richmond, and covering as they do some seven years, are of particular interest.

The Delaware valley, from the northern environs of Philadelphia to Trenton, has long been the resort of many gunners. Though not so famous as the celebrated Chesapeake flats about Havre de Grace, it has in past years supplied not only various sportsmen but also the market with water fowls of various sorts. At present the birds do not congregate in such numbers as formerly, according to reports, but large flocks of ducks and geese are still seen frequently, and many other species are by no means rare.

The river in this region is generally wide, with low swamp and meadow land stretching for long distances along either shore. It is seldom that the banks at any point rise much above the water, the elevation of about fifty-eight feet at Florence

being the highest point. Below Trenton, on the Jersey shore, there is a long, low expanse of meadow and swampy land, skirted by a high embankment which is mostly well wooded and rises abruptly to form a large plateau. Low islands, bars and shallows are also numerous and these, as usual, are very attractive to migrant water birds. In fact, all the natural conditions prevailing along this part of the river are admirably adapted to a variety of bird life, although the proximity to a great city must naturally have its effect upon the abundance of the more wary species.

The principal tributaries flowing into this part of the river are on the Pennsylvania side, the Neshaminy, Poquessing, Pennypack and Frankford creeks, and on the New Jersey side, Crosswick's, the Rancocas and Pensauken ; the estuaries of which form a harbor for many birds which do not prefer the more open water.

The river is tidal as far as Trenton, covering the whole section under consideration, and the tide-water extends some distance up the tributaries, especially on the Jersey side.

Of the birds in the following list only a few are known to breed along this part of the river, namely, the Least Bittern, Green Heron, Night Heron, King Rail, Virginia Rail and Spotted Sandpiper. It is probable that the American Bittern and Sora Rail may be added to the list, though I have no personal knowledge to that effect.

The Great Blue Heron has a nesting colony in the vicinity of Glassboro, N. J., and possibly another nearer, while the Killdeer and Bartramian Sandpiper nest in the uplands or interior not very far back from the river. The Wood Duck was unquestionably a resident species in former years.

With the exception of the above species the notes in the following list will be understood to refer only to the winter months or the seasons of migration :

Colymbus holbœllii. Holbœll's Grebe.

Although I have never taken this bird on the Delaware myself it has been seen at rare intervals according to local gunners, and one was shot by Mr. John Reese at Riverton, N. J., February 12, 1894.

Colymbus auritus. Horned Grebe.

Common on the Delaware during the fall and winter. Generally shy and seldom ascending creeks beyond tide-water.

Podilymbus podiceps. Pied-billed Grebe.

A number were observed on the Delaware during November, 1895. It is most frequently seen on the Rancocas, Pennypack and Neshaminy creeks and is shot at by gunners whenever an opportunity is offered. The mill pond at Bristol is also a favorite resort for these birds. Mr. Miller states that all the "Hell Divers" seen by him, that were shot on the river, proved to be this species; though he thinks it likely that the former species is often killed as it is confused with this by gunners.

Gavia imber. Loon.

This species has frequently been seen on the Delaware, during November especially, but they are shy and usually keep well out in the channel. A number of years ago several were seen together at the mouth of the Pennypack creek, though they are usually solitary. One killed on the river at Frankford in the fall of 1902 (*Miller*).

Gavia lumme. Red-throated Loon.

Apparently more abundant than the preceding. At times as many as a dozen are seen together. Not long ago one was reported as taken in a fish-net.

Uria lomvia. Brunnich's Murre.

Mr. J. H. Reed has observed a large flock of these birds on the Delaware opposite Beverly, N. J., December 15 and 16, 1896 (see *Auk*, 1897, p. 202). The rather imperfect accounts or descriptions submitted to me by gunners point to the occurrence of individuals occasionally during the winter, and I have one in my collection killed at Byberry, January 11, 1901.

Stercorarius pomarinus. Pomerine Jaeger.

A rare straggler, one specimen secured by Mr. Chas. Vansciver opposite Andalusia, October, 1898, now in the D. V. O. C. collection at the Academy of Natural Sciences.

Larus argentatus. Herring Gull.

Common winter resident. They seldom wander far from the main course of the river, only occasionally following the smaller creeks for short distances. Mr. W. L. Whitaker secured one

October, 1893, on a mill dam at Cedar Grove, Philadelphia, five miles from the Delaware.

Mr. Miller states that one was observed by his brother at Sandiford, Philadelphia, February 28, flying very low. He also furnishes the following dates, based on his observations at Frankford:

Arrival: October 19, 1898; September 19, 1901; November 13, 1902; October 24, 1903.

Departure: June 2, 1897; April 3, 1899; April 16, 1900; May 5, 1901; May 3, 1902; May 2, 1903.

Larus delawarensis. Ring-billed Gull.

Rarely observed. Mr. S. N. Rhoads observed them from the Market Street Ferry, at Philadelphia, between the 17 and 27 of February, 1895, but they appeared much more abundant after the ice had broken up. The same remarks apply to the Herring Gull.

Larus atricilla. Laughing Gull.

Most abundant during the spring and fall, seldom wandering any distance from the river. During the late spring they hover about the shad and herring fishermen. At this time they have been seen attempting to devour freshly-killed herring, which examination proved to be the adult Alewife (*Pomolobus pseudoharengus*). Possibly they also attempt to devour other dead fish, such as the Catfish (*Ameiurus catus*) and Perch (*Morone americana*), which are occasionally observed floating on the water. I have not observed them devouring living fishes. Two were taken at Bristol, October 23, 1895, and one at Fish House, N. J., fall of 1901 (*Miller*).

Sterna sp.

Mr. Miller also reports a tern of some species observed by a reliable gunner, but it was not secured.

Phalacrocorax dilophus. Double-crested Cormorant.

This bird has been frequently seen during migrations about Burlington Island, where two specimens were captured.

Merganser americanus. American Merganser.

Abundant and locally known as Irish Canvas-back. Also seen in small creeks. I have seen them along the Pennypack, hugging the shelter of coves and shallow pools protected by

high grass or rushes. They have also been seen in large flocks on the Rancocas flats, many of them adult males. Frequent at Bristol. Often killed behind the dyke which extends from Petty's Island toward the New Jersey shore at Delair.

Merganser serrator. Red-breasted Merganser.

Not observed by myself, but included on the authority of gunners at Bristol. Reported also by Mr. Miller as killed near Frankford.

Lophodytes cucullatus. Hooded Merganser.

According to most of the gunners, this species has not been seen for many years. Three specimens were, however, killed at Bristol.

Anas boschas. Mallard.

Two observed during November, 1895, at Holmesburg. Killed occasionally at Bristol.

Anas obscura. Black Duck.

Five seen during November, 1895, on the river, and a number also observed later about the mouth of the Pennypack creek. Killed at Bristol. (*Keim.*) Many killed behind Petty's Island and the dyke. (*Miller.*) Two were also observed by Mr. Miller at Bristol, May 27, 1903, flying down the river.

Chaulelasmus strcperus? Gadwall.

This is reported from Bristol on the authority of Mr. Morris, but I have never seen it from this region and various gunners whom I have questioned do not seem to know it. It is probably unusual.

Mareca americana. Baldpate.

Not many observed. Taken at Bristol. Common, according to Mr. Miller, in late fall and early winter in small flocks.

Nettion carolinensis. Green-winged Teal.

Scarce, only taken occasionally. Has been shot at Bristol. Mr. Miller reports it as rather rare, he has seen but one or two.

Querquedula discors. Blue-winged Teal.

Not abundant. Generally seen on the marshes. One in my collection taken at Bristol, April 14, 1896, now in the collection of the Academy. It is also reported by Mr. Morris. Mr. Miller regards it as rather common, mostly seen in September.

Dafila acuta. Pintail.

A large flock seen on the Delaware during November, 1895. At times they almost completely cover the Rancocas flats. Also shot at Bristol. Many shot behind Petty's Island and the dyke. (*Miller.*)

Spatula clypeata. Shoveller.

Reported on the authority of gunners as rare. Has been taken at Bristol.

Aix sponsa. Wood Duck.

Common near Bristol in the fall of 1895, where a number were taken. According to reliable authority, prior to 1860 many were killed on the river above Richmond. They frequently occurred on the Pennypack till 1895, but subsequently have been seldom seen. Mr. Miller states that but few are shot in his neighborhood. He saw one at Volunteertown, May 28, 1901, which flew from a wood. One was also seen at Fish House, N. J., May 21, and a search made for the nest without success. A pair was reported to have bred near Parry, Burlington Co., N. J., in a wood along the Pensauken creek, in the spring of 1897. The observer stated that the young, eight or nine in number, were reared in an old flickers' cavity about thirty feet up in a dead tree. Another gunner stated that a pair bred on one of the islands in the Delaware, near Trenton. (*Miller.*) In June, 1896, Mr. Hazen Brown several times saw a Wood Duck on the Pennypack creek near Melmar, which from its actions must have been breeding in the vicinity. (*S. Brown.*)

Aythya americana. Redhead.

Many killed opposite Holmesburg during the early eighties but their occurrence in any numbers has not been noted since. Has been taken in past years at Bristol (*Morris*).

Aythya vallisneria. Canvas-back.

Reported with and at the same time as the preceding but very rare now. Two were shot at the mouth of Pennypack creek at that time. Has also been shot at Bristol (*Morris*).

Aythya marila. Greater Scaup.

Confused by gunners with the following, but is apparently taken occasionally.

Aythya affinis. Lesser Scaup.

Probably more common than the last.

Aythya collaris. Ring Neck Duck.

Rare; has been shot at Bristol (*Morris*).

Clangula clangula americana. Golden-eye.

Rather common; a few killed every year; generally occurs in pairs. Mr. Miller regards it as common in winter in small flocks. Several have been shot at Fish House, N. J.

Charitonetta albeola. Buffle-head.

A few observed each year, equally as abundant as the preceding. Quite common winter visitant according to Mr. Miller's experience.

Oidemia sp. Scoter.

Scoters are reported from Bristol by Mr. Morris, but the identity of the species is in doubt. It is probable that they occur on the river during or after heavy storms, and gunners have several times reported such birds though I have never personally seen them.

Harelda hyemalis. Old Squaw.

A flock seen November 26, 1895, flying over the marsh at Bristol. A number were killed at Holmesburg several years before.

Erismatura jamaicensis. Ruddy Duck.

About 1887 and 1888 they were abundant opposite Holmesburg, one gunner killing as many as one hundred in a single day. At that time they appeared on the river in great numbers and no flight of any account has been seen since. Is taken at Bristol.

Branta canadensis. Canada Goose.

Seen every year during the spring and fall migrations flying high over head. A flock of fifty were seen at Bristol during the last week of November, 1895, and it is occasionally shot there by gunners. Mr. Miller states that his brother observed a flock of twenty-six, on April 16, 1903, resting on a farm at Sandiford, Philadelphia, which only took wing upon the approach of gunners. The earliest dates on his record are March 25, 1898; February 12, 1902; April 16, 1903; on September 20, 1900, two were seen flying south.

Branta bernicla. Brant.

Five seen flying over the river near Holmesburg during a

rough storm in 1885. It has also been shot at Bristol. Mr. Miller reports two seen on the meadows in the fall of 1894 and 1895.

Botaurus lentiginosus. American Bittern.

Common. Five specimens were obtained at Holmesburg in 1894 and 1895. One was shot in a small cedar tree where it was in the habit of roosting. The dates range from April 2 to May 6 in spring and November 2, 1894, in the fall. Another was taken near Philadelphia, June 29, 1894. Mr. Miller regards them as rare in his neighborhood. He saw one May 13, 1899, and on March 30, 1902, one was seen at Delair, Camden county, N. J.

Ardetta exilis. Least Bittern.

Frequent about Holmesburg, where it is easily flushed from the marshes. Specimens in my collection were taken August 22 and September 2, 1895, and September 3, 1896, one of these was well up the Pennypack Creek beyond tide-water in woodland.

Mr. Miller states that an incomplete nest was found May 28, 1903, at Richmond, in a marsh, and on June 6 of the same year, a completed nest. Still another nest was found at the mouth of Pensauken creek, N. J. Earliest date of arrival, April 24, 1899.

Ardea herodias. Great Blue Heron.

Common at Bristol in the spring; as many as a dozen are often seen at one time above the mill pond. They are found all along the river throughout the summer, but apparently do not nest in this section. Mr. Miller has observed it on the New Jersey side of the river from May to August, and reports one killed near Torresdale.

Garzetta egretta. White Egret.

In former years seen almost every August about Holmesburg where one at least was shot.

Florida caerulea. Little Blue Heron.

Two in the white plumage taken at Bristol, August 25, 1899. In this year, and also in 1902, it was particularly plentiful during August. Mr. Miller also reports a flock of eleven seen by a gunner near Riverton, N. J., in September, 1900. Other

records will be found in the paper by Wm. B. Evans, CASSINIA, for 1902, p. 15.

Butorides virescens. Green Heron.

Very common, particularly in fall. Breeds. Earliest date of arrival in Mr. Miller's record, April 29, 1902, latest date of departure, October 8, 1898. I have taken them at Holmesburg as late as September 26, 1896, while one was shot at Bristol, November 26, 1895, and another as early as April 16, 1897.

Nycticorax nycticorax nævius. Night Heron.

Common; seeking the retired shelter of tall trees during the day, especially tulip trees, often quite a distance from the water. Mr. Miller finds them most plentiful in fall, and has observed a pair along the Pennypack creek at Holmesburg for seven years, but never found a nest. His earliest date of arrival, April 3, 1899.

Rallus elegans. King Rail.

Seen occasionally on the marshes about Holmesburg in summer. A nest was found, June 3, 1902, at Bridesburg, by Richard F. Miller. More plentiful in fall. On February 3, 1895, a male bird was shot a quarter of a mile below Bristol by W. Wilson, of Frankford, and a female in the same spot February 17. The ground was covered with snow at the time. The birds were examined and identified by Mr. W. L. Whitaker.

Rallus virginianus. Virginia Rail.

Is shot by gunners between August and November at Bristol and Holmesburg, but is not nearly as abundant as the next. Mr. Miller found two nests of this species at Richmond in June, 1903, and considers that the rail nests and young rails in black, downy plumage, reported several times by gunners, probably belong to this species. One was found dead at Eddington, Bucks Co., Pa., August 27, 1900, which was killed by striking a telegraph wire.

Porzana carolina. Carolina Rail.

Abundant transient, shot in numbers in autumn. Earliest date of arrival in Mr. Miller's record May 8, 1897.

Porzana noveboracensis. Yellow Rail.

One obtained by W. L. Baily at Palmyra, N. J., October 13, 1886, and two in my collection taken September 16 and 25,

1895 at Holmesburg. It has also been flushed at the latter locality in November.

Gallinula galeata. Florida Gallinule.

Besides the records in Mr. Stone's list, it is reported from Bristol by Mr. Morris.

Fulica americana. Coot.

Reported by gunners as formerly abundant but less common at present. Has been taken at Bristol by Mr. Morris. One was also caught by Mr. S. N. Rhoads along the river above Bristol, October 1, 1895. Mr. Ernest Schluter shot two at League Island, Phila., as late as November 2, 1897.

Phalaropus lobatus. Northern Phalarope.

One was killed along the Delaware river in the spring of 1892 and mounted by C. A. Voelker, who exhibited it before the Club. Exact location not ascertained.

Philohela minor. Woodcock.

Two taken during the last week of November, 1895, and one November 3, 1897, several also in July, 1896, at Holmesburg. Formerly common but now becoming scarce. Mr. Miller has found them during the breeding season in suitable localities at Sandiford, Philadelphia and West Palmyra, N. J., but never found a nest. His earliest spring record is March 15, 1898, at Rowlandville.

Gallinago delicata. Wilson's Snipe.

Transient. Not nearly so common as formerly, specimens taken August, 1895 and September, 1894. Observed at Bristol, April 13, 1902 (Keim). Mr. Miller states that his earliest spring record is March 3, 1902, and latest fall record, October 24, 1903. He has observed it at Torresdale as late as April 18, 1899.

Helodromas solitarius. Solitary Sandpiper.

Regular and common migrant mostly seen inland on the smaller streams. I have taken them at Holmesburg as early as July. Mr. Miller states that it is common in late April and early in May and in September.

Bartramia longicauda. Bartramian Sandpiper.

Seen occasionally in dry, open fields, away from the river. Mr. Morris reports them as formerly abundant in late summer at Bristol.

Totanus melanoleucus. Yellow-legs.

Mr. Morris reports these birds as very scarce at present at Bristol and seen only in northeast storms. About 1883 they were plentiful and as many as a dozen were shot in a single morning. Two were seen near the mouth of Pensauken creek by Mr. Stone, May 30, 1897. Mr. Miller reports one seen May 6, 1902, at Bridesburg and one shot May 5, 1901, on the Pensauken creek, N. J. Mr. Ernest Schluter shot one November 9, 1897, at League Island, a remarkably late date.

Oxyechus vociferus. Killdeer Plover.

One taken August 6, 1894, at Holmesburg. Seen occasionally during rainy weather in fall when they seem to prefer soaked or wet grass land. Mr. Miller regards it as a common summer resident and furnishes the following dates: Arrivals, May 8, 1897; March 12, 1898; April 15, 1899; April 16, 1900; April 23, 1902; February 28, 1903. Departures, November 7, 1898; October 21, 1903. He states further that a pair bred at Sandiford, Philadelphia, in 1903, and at Bridesburg another pair succeeded in raising a brood of three, but the whole family was subsequently shot by gunners.

Charadrius dominicus. Golden Plover.

Mr. Morris reports one from Butcher's Point about 1895 and they were plentiful at Bristol about 1870. I have never observed the species.

Actodromas minutilla. Least Sandpiper.

Rare. Several seen August 16, 1897, at Greenwich Point, Philadelphia, and a flock of twenty-five or thirty on August 7, 1898, at Bridesburg.

Actitis macularia. Spotted Sandpiper.

Common summer resident. Breeds. Have recorded it from April 27 to October 13. Mr. Miller gives the following dates of migration: Arrivals, April 24, 1897; April 18, 1898; April 29, 1899; April 30, 1900, and 1901; April 25, 1902; May 8, 1903. Departures, August 26, 1897; August 12, 1898; August 20, 1900; September 1, 1903.

A Remarkable Night Migration at Mt. Pocono, Pa.

BY WILLIAM L. BAILY

A RARE opportunity to observe a migration on the summit of our mountains was afforded me on the night of the twenty-third of August, 1903, at Mt. Pocono, Monroe county, Pa.

The general course of the Alleghany mountain system across the State is northeast and southwest, and on top of one of the spurs jutting out from the Pocono plateau is located the Pocono Manor hotel, overlooking a beautiful rolling valley which descends gradually to the Delaware river twelve miles away. In the opposite direction, to the northwest, lies a great flat or undulating plateau, varying from 1,500 to 2,000 feet above sea level, sloping away toward the Susquehanna Valley at Wilkesbarre; while beyond, in Sullivan and Wyoming counties, rises abruptly the North Mountain plateau, which attains an elevation of some 2,500 feet, and is, approximately, fifty-five miles from Mt. Pocono. It was from the intervening region that the birds seemed to be migrating on the night mentioned.

On account of the intense humidity, the weather during the few days immediately preceding had, at lower altitudes, been almost unbearable, and the thermometer registered 89° at Philadelphia and 79° at Mt. Pocono on the twenty-third. That evening brought a breeze from the northwest, just cool enough apparently to start the first extended migration of the fall. According to the calendar, the sun set at 6:47 p. m. and the new moon had also fallen below the horizon; the sky was clear and somewhere between sunset and 8:30 o'clock the migration of warblers was well under way at Pocono.

Having spent the early evening in the house, I stepped out on the porch to observe the weather and at once noticed the chirping of the feathered host above. In a few minutes I had a number of people on the porches listening to the strange

sounds which were quite new to them. About this time clouds began to gather and the night was black. The hotel is lighted by electricity and though no bright lights are raised aloft, a glare spread out from the halls and parlors and through many of the windows in the upper stories. In order to ascertain the direction in which the birds were flying and whether they were all being attracted by the light, I walked a considerable distance in both directions from the hotel at right angles to the apparent line of flight and along the edge of the plateau, and found that I could distinguish about as many chirps a quarter of a mile away as I could at the hotel. Judging by the sound of the chirps, they were passing over at the rate of at least fifty per minute and very continuously.

About half past nine I was driven under cover by a shower of rain which soon had the effect of bewildering the birds, and they began to fly onto the porches and into the windows of the hotel. First came an Oven-bird, then a Maryland Yellow-throat and various other species, several of them wounding themselves on the forehead by dashing against hard objects. The greater number of the birds were seen, however, flying around the outside of the building trying to gain a footing on the sides of the house, or trailing up and down the halls in the upper floors, alighting on transoms, or after a vain attempt to find a resting-place at the corner of the ceiling, they would slide down the plaster wall and get caught behind trunks and curtains where they would flutter helplessly until released.

The house was full of guests, many of whom were retiring for the night, and they were startled by the entrance of what they at first thought were bats, but discovering the nature of the captives they hastened to liberate them. Several were brought to me for identification but there were numbers that were set free before I saw them. The birds, so far as I could judge by the plumage, were young of the year except one adult male Canadian Warbler. The number of individual birds that came into the hotel was probably thirty or forty, of which I identified nineteen as follows: Yellow-bellied Flycatcher 5, Oven-bird 8, Chestnut-sided Warbler 2, Blackburnian Warbler 1, Black-throated Green Warbler 1, Maryland Yellow-throat 1, Canadian Warbler 1.

The utter stupidity of the birds particularly attracted my attention, for when they were picked off of a window sill or from the floor and set free on the porch, they would fly pellmell back again into the house among the people, as if they had forgotten all about the migration and their companions who were still passing overhead, loudly chirping as if to reassemble their bewildered fellow-travellers.

From the fact that nearly all the birds examined were young, it would seem plausible that the older and more experienced ones were able to keep out of trouble rather than that they were absent. The multitude was still passing at 11:20 p. m., when I retired, and also at 1 a. m., when I happened to be awake. The hotel lights were out soon after eleven, and as the shower had passed over, the migration continued uninterrupted.

With the exception of the Blackburnian Warbler, I found all the species mentioned on the Manor property between June 26 and July 11, as well as the Magnolia and Golden-winged Warblers.

The direction of the flight seemed to be the same as the light wind, *i. e.*, from the northwest directly at right angles to the trend of the mountains. Considering the early start of the migration and the length of time it continued, the supply of birds must have come from a large expanse of country; those passing over first coming from a point not far away and the later ones from the country between the Pocono and North Mountain plateaus. The Blackburnian Warbler, for instance, may have come from the North Mountain, as I discovered it on a window sill after half past ten. The birds of the whole area must have started about the same time in order to have kept up this comparatively unbroken flight for so many hours. The question might be asked why these birds should have flown directly across the mountain instead of following the valleys as it might be supposed they would do. In the first place, the birds are distributed over the whole mountainous area, and when they start to migrate their purpose probably is to get within the shelter of the Delaware Valley as quickly as possible by the most direct route, or it may be that they were simply returning by the route of the previous spring, the only one these particu-

lar birds knew; but their ability to start simultaneously from such a widely extended area is like so many other mysteries of bird intelligence, a nicety of instinct too sensitive for us to appreciate.

Report on the Spring Migration of 1903

COMPILED BY WITMER STONE

Observations on the spring migration were carried on during the spring of 1903 on exactly the same plan that was adopted in the preceding year, and owing to the efforts of Mr. Wm. E. Hannum, chairman of the Club's Committee on Migration, the services of nearly all of the 1902 corps of observers were secured, while there were quite a number of new stations represented.

It is of the greatest importance that records should be kept at the same stations for a number of years if any deductions of value are to be drawn from our observations, and we, therefore, earnestly request the continued assistance of those who have aided us in the past. Blank schedules will be sent to any one who is willing to join our corps of observers and additional records from points within the ten-mile circle are particularly desired.

Mr. Samuel C. Palmer, Swarthmore, Delaware county, Pa., will superintend the distribution of schedules for 1904, and inquiries relative to the work should be made to him.

Records for the spring of 1903 were received from the following:

New Jersey.

H. Walker Hand, Cape May.
W. W. Fair, Downstown (three miles from Newfield).
Miss Caroline W. Murphy, Point Pleasant.
J. Fletcher Street, Beverly.
Wm. B. Evans and others, Moorestown.
Anna A. Mickle, Moorestown.
Emily Haines, Rancocas.
Rachel E. Allinson, Yardville.
Mrs. E. M. Hamlin, Haddonfield.

H. E. Doughty, Haddonfield.
Samuel N. Rhoads, Audubon.

Pennsylvania.

Charles J. Pennock, Kennett Square.
Mrs. Katharine R. Styer, Concordville.
William Carter, Lenape.
Edith Smedley and Jas. G. Vail, Westtown.
Thomas H. Jackson, West Chester.
Howard Y. Pennell, M. D., Downingtown.
Frank L. Burns, Berwyn.
John D. Carter, Haverford.
William L. Baily, Ardmore.
Miss Emily H. Thomas, Bryn Mawr.
Chreswell J. Hunt, Overbrook.
Elmer Onderdonk, West Fairmount Park.
James F. Prendergast, M. D., West Fairmount Park.
William E. Hannum, Swarthmore.
William E. Roberts, Swarthmore.
Asa P. Way, Swarthmore.
Samuel C. Palmer, Swarthmore.
Lydia G. Allen, Media.
Anna D. White, Lansdowne.
J. Harold Austin and W. R. White, Lansdowne.
Harold Evans, Germantown, Phila.
Frank Miles Day, Germantown, Phila.
Samuel Mason, Jr., Germantown, Phila.
Alexander Patman, Hunting Park, Phila.
John R. Pickering, Wissahickon, Phila.
Richard F. Miller, Frankford, Phila.
Henry W. Fowler, Holmesburg, Phila.
William H. Trotter, Chestnut Hill, Phila.
Thomas D. Keim, Bristol.
Edw. Pickering, Jr., Woodbourne, Bucks Co.
Albert C. Rutter, Perkasie.
W. H. Buller, Marietta.
August Koch, Williamsport.
Otto Behr, Lopez.

The records from points within a ten miles radius of Philadelphia have been combined into five sections as described on page 35 of CASSINIA for 1902, the groups being as follows:

I. Moorestown, Rancocas and Beverly.
II. Haddonfield and Audubon.
III. Swarthmore, Lansdowne and Media.
IV. W. Fairmount Park, Ardmore, Haverford, Bryn Mawr.
V. Germantown, Wissahickon, Chestnut Hill, Frankford.

Comparing the arrival of twenty-four species recorded from all five sections we have the following results:

	Moorestown.	Swarthmore.	Germantown.	Ardmore.	Haddonfield.
First . .	10	8	7	5	5
Second .	6	6	5	2	2
Third . .	3	5	5	8	7
Fourth .	2	1	4	6	3
Fifth . .	3	4	3	3	7

Or in other words, the Moorestown section was the first to report ten species, second to report six, third in three instances, etc. By giving a rank of 24 to the section which might have been first to report all the species, we find that these five sections would rank relatively as follows: Moorestown 54, Swarthmore 59, Germantown 63, Ardmore 72, Haddonfield 77.

The Haddonfield records are so admittedly incomplete that they should not be seriously considered in such a comparison. The other figures, however, indicate that the average time of arrivals at all points along the river, *i. e.*, Moorestown and Swarthmore sections, are nearly the same, and that farther back in the higher ground they average a little later, which corroborates the deductions of last year.

Careful study of this year's records also seems to indicate that the first arrivals of a species in the Philadelphia district may consist of individuals at several widely scattered stations, while it may be some days before the next influx of that species, which will be indicated by first records at a number or all of the other stations.

An interesting record for 1903 is that kept by Mr. Otto Behr, at Lopez, Sullivan county, on top of the main Alleghanies, and

one of the highest points in the State. This should naturally be one of the last points to record the arrival of spring migrants, and comparing the dates with those from the Philadelphia district, we find about ten days' difference. Compared with other seasons, the spring migration of 1903 was peculiar, and as Mr. Rhoads says in his report, it "sets at naught the averages of many years." All observers seem to agree that there were practically no "waves" and the transient Warblers and Thrushes were either not seen at all or only scattered individuals. This was not only so in the Delaware Valley but at Williamsport as well, for Mr. August Koch writes, early in June, that the majority of the Warblers had not been seen up to that time and wonders if the mountain fires had driven them from his neighborhood.

The almost unprecedented warm weather in the latter part of March, followed by severe cold early in April, had a marked effect upon the migration. Some of the first migrants were much earlier than 1902 while many late ones were later.

There is a striking correspondence at our various stations in the relative time of arrival as compared with 1902, and a species which is earlier at one station is usually earlier at all at which full records have been kept and *vice versa*.

Taking sixteen common species as recorded in four of the Philadelphia sections and at Westtown, where we have a very satisfactory series of observations, we have marked the number of days that the 1903 arrival is earlier or later than that of 1902, except in a few cases where the dates were the same. The dates carried down the side are approximately the time of arrival at Philadelphia in 1902, the intention being to show about the time of spring that the different species appeared, the earliest migrants being placed first:

	Moorestown Sect.	Swarthmore Sect.	Ardmore Sect.	Germantown Sect.	Westtown.	Average date at Philadelphia, 1902.
Phoebe	E 13	E 10	E 8	E 15	E 7	Mar. 23
Chipping Sparrow	E 8	.....	E 13	L 3	E 23	Mar. 29
Barn Swallow	L 6	L 4	L 6	L 1	L 7	April 13
Towhee	E 2	E 9	E 5	E 3	Same.	April 20
Chimney Swift	E 2	E 2	Same.	E 1	E 2	April 21
Black and White Warbler	E 6	L 6	E 5	E 2	E 1	April 22
Brown Thrasher	L 2	L 7	E 1	E 1	L 7	April 23
House Wren	E 3	Same.	L 1	L 2	L 4	April 24
Maryland Yellow-throat	Same.	L 1	Same.	E 4	L 7	April 25
Ovenbird	L 4	L 3	L 3	Same.	E 1	April 26
Catbird	L 4	L 7	L 6	L 4	L 3	April 26
Wood Thrush	L 5	L 7	L 3	L 2	L 9	April 30
Kingbird	E 2	.....	E 1	L 8	L 6	May 1
Crested Flycatcher	L 6	L 8	L 7	L 4	L 10	May 1
Red-eyed Vireo	L 7	E 2	L 5	L 2	L 3	May 1
Chat	L 3	L 2	L 6	Same.	E 1	May 3

From the above, it will be noticed that the Phœbe and Chipping Sparrow, which arrive late in March, were decidedly earlier than in 1902, the Barn Swallow (April 13) was later, the next three species (April 20–22) were earlier, while all the others were late.

From the data that are being gathered together in *Cassinia*, many other interesting comparisons can be made, and a careful study of the records will prove of interest to those who are making the observations.

The tables which follow are based on the same species as those of the 1902 report:

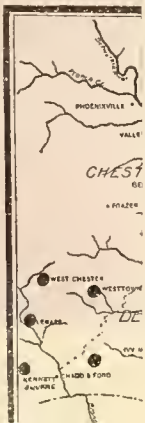
	Beverly, N. J.	Rancocas, N. J.	Moorestown, N. J.	Haddonfield, N. J.	Audubon, N. J.	Swarthmore, Pa.	Lansdowne, Pa.	Media, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Hunting Park, Phila.	Chestnut Hill, Phila.	Frankford, Phila.
Canada Goose	.....	.....	.....	Mar. 13	.....	Apr. 9	.....	Apr. 19	.....	Mar. 11						
Green Heron	.....	.....	May 3	.....	Apr. 30	May 18	.....	.....	.....	.....	.....	.....	May 2			
Night Heron	.....	.....	Mar. 22	.....	.....	Apr. 26	.....	.....	.....	May 3						
Spotted Sandpiper	May 9	.....	Apr. 19	.....	Apr. 26	Apr. 26	May 23	Apr. 29	.....	Apr. 19	.....	.....	Apr. 18	.....	.....	May 8
Solitary Sandpiper	.....	.....	May 9	.....	.....	Apr. 25										
Killdeer	May 9	Mar. 5	Mar. 5	Mar. 22	.....	Mar. 6	.....	.....	.....	Feb. 27	.....	.....	.....	.....	.....	May 5
Dove	.....	Apr. 19	Mar. 10	.....	.....	Apr. 3	.....	Mar. 31	Apr. 22	May 5	.....	.....	Apr. 25	.....	.....	Mar. 13
Osprey	.....	.....	.....	Apr. 7	Apr. 3	May 23	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 10
Turkey Vulture	.....	.....	Mar. 13	Mar. 29	.....	Feb. 28	Mar. 12	.....	Mar. 23	Mar. 14	.....	Apr. 17	.....	Apr. 24	Apr. 11	
Yellow-billed Cuckoo	.....	.....	May 8	.....	.....	May 15	May 8	Mar. 21	May 8	May 10	.....	.....	.....	.....	May 16	May 19
Black-billed Cuckoo	.....	May 9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 18			
Kingfisher	Mar. 20	May 5	Mar. 7	Apr. 18	Apr. 18	Apr. 9	Mar. 31	Apr. 10	.....	Apr. 17	.....	.....	Apr. 11	.....	Apr. 18	Apr. 11
Yellow-bellied Saps'k'r.	.....	.....	.....	.....	.....	Apr. 29	Feb. 27	.....	.....	Apr. 19	.....	.....	.....	Apr. 6		
Red-headed Woodp'k'r.	.....	.....	Apr. 10	.....	Apr. 27	May 19	May 1	.....	May 8	May 28	.....	.....	.....	Apr. 9	.....	Apr. 28
Flicker	Mar. 15	Mar. 17	Mar. 10	Mar. 10	.....	Mar. 14	.....	Mar. 21	Mar. 2	Mar. 1	.....	Mar. 18	Mar. 8	.....	Mar. 21	Feb. 10
Whip-poor-will	.....	.....	Apr. 27	.....	May 5	Apr. 28	Apr. 29	.....	May 1	.....	.....	.....	May 8			
Nighthawk	.....	.....	.....	.....	.....	Apr. 30	.....	May 28	Apr. 29	.....	.....	May 18	May 10			
Chimney Swift	Apr. 28	Apr. 20	Apr. 19	Apr. 23	Apr. 22	Apr. 19	Apr. 19	Apr. 21	Apr. 19	Apr. 19	.....	Apr. 28	Apr. 21	Apr. 23	Apr. 28	Apr. 23
Hummingbird	.....	.....	May 6	.....	.....	Apr. 16	May 29	May 10								
Kingbird	May 9	.....	May 2	May 9	May 9	Apr. 15	.....	May 21	May 11	May 3	.....	.....	May 9	.....	May 11	May 9
Great Crested Flycatc'r.	May 9	May 5	May 4	May 2	May 2	May 9	May 13	May 8	May 10	May 10	.....	May 8	May 8	.....	May 6	May 9
Phoebe	Mar. 22	Apr. 5	Mar. 17	.....	.....	Mar. 15	Mar. 13	Mar. 6	Mar. 20	Mar. 15	.....	Mar. 18	Mar. 8	Mar. 6	Mar. 21	Mar. 26
Wood Pewee	.....	May 19	May 17	May 6	May 10	May 9	May 19	May 14	May 12	May 17	.....	May 8	May 16	.....	.....	May 19
Green Crested Flycatc'r.	.....	.....	.....	.....	.....	May 18	May 25	May 8	.....	May 10	.....	.....	.....	.....	May 16	

	Beverly, N. J.	Rancocas, N. J.	Moorestown, N. J.	Haddonfield, N. J.	Audubon, N. J.	Swarthmore, Pa.	Lansdowne, Pa.	Media, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Hunting Park, Phila.	Chestnut Hill, Phila.	Frankford, Phila.
Least Flycatcher	.....	.....	Apr. 27	.....	.....	May 1	May 10	.....	.....	Apr. 30						
Bobolink	May 9	.....	Apr. 30	.....	Apr. 30	Apr. 30	.....	.....	.....	May 10	May 6	.....	.....	.....	.....	May 11
Cowbird	May 2	May 6	May 6	Mar. 1	.....	Mar. 23	Mar. 13	Mar. 31	.....	Mar. 15	.....	.....	Apr. 30			
Red-winged Blackbird	Mar. 1	Mar. 5	Mar. 4	Mar. 10	.....	Mar. 2	Mar. 17	Mar. 4	Mar. 15	Mar. 15	Feb. 27	.....	Mar. 12	Mar. 6	Mar. 15	Mar. 6
Meadow Lark	Mar. 15	.....	.....	Mar. 4	.....	.....	Mar. 3	Mar. 6	Mar. 2	Jan. 23	.....	Mar. 18	Mar. 14	.....	Jan. 5	Feb. 12
Orchard Oriole	May 9	May 15	May 4	May 13	May 4	May 18	.....	May 16	.....	May 10	.....	.....	.....	.....	May 12	May 9
Baltimore Oriole	May 2	May 7	May 8	May 3	May 1	May 7	May 10	May 5	May 13	May 10	May 5	May 8	May 7	.....	May 12	May 9
Rusty Blackbird	.....	.....	Mar. 15	Mar. 1	.....	.....	Mar. 29	.....	.....	Apr. 7						
Purple Grackle	Mar. 1	Mar. 2	Feb. 13	Mar. 17	.....	Feb. 27	Feb. 27	Feb. 27	Mar. 1	Feb. 28	Mar. 3	Mar. 30	Mar. 1	Mar. 4	Mar. 5	Mar. 2
Vesper Sparrow	Apr. 5	Apr. 9	Mar. 29	Apr. 11	.....	Apr. 19	Apr. 11	Apr. 10	Mar. 26	Mar. 25	Mar. 21	.....	Mar. 31	.....	Apr. 10	Apr. 17
Savanna Sparrow	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 19	.....	.....	Apr. 27			
Grasshopper Sparrow	.....	Apr. 26	Apr. 23	.....	Apr. 24	May 9	.....	.....	.....	May 3						
Chipping Sparrow	Mar. 22	Mar. 24	Mar. 21	Apr. 2	.....	Mar. 21	Mar. 20	Mar. 21	Mar. 21	Mar. 27	Mar. 27	Apr. 17	Apr. 9	.....	Apr. 3	Apr. 2
Field Sparrow	Mar. 22	Mar. 13	Mar. 28	Apr. 18	.....	Mar. 22	Mar. 2	Mar. 8	Mar. 19	Mar. 14	Apr. 5	.....	Mar. 14	.....	Mar. 22	Mar. 6
Swamp Sparrow	.....	Apr. 28	Apr. 24	.....	Apr. 24	Apr. 30	.....	.....	.....	May 10	.....	.....	May 9	.....	.....	Apr. 27
Fox Sparrow	.....	Mar. 5	Mar. 13	.....	.....	Feb. 27	Feb. 27	.....	Mar. 1	Mar. 15	.....	.....	Mar. 14	Feb. 27	Mar. 14	Mar. 2
Chewink	May 9	Apr. 20	Apr. 25	May 1	May 2	Apr. 26	Apr. 18	Apr. 10	Apr. 20	Apr. 12	.....	Apr. 17	Apr. 25	.....	May 8	Apr. 3
Rose-breasted Grosbeak	.....	.....	.....	.....	.....	May 21	.....	.....	.....	May 19						
Indigobird	.....	.....	May 25	May 3	May 9	May 5	May 1	May 4	May 8	May 10	.....	May 12	May 17	.....	May 1	May 11
Scarlet Tanager	May 9	.....	May 18	.....	May 6	May 2	May 9	May 6	May 14	May 10	.....	May 8	May 3			
Purple Martin	.....	.....	Apr. 2	Apr. 20	Mar. 28	Apr. 10	.....	.....	.....	May 19						
Cliff Swallow	.....															
Barn Swallow	May 2	Apr. 26	Apr. 19	Apr. 25	May 2	Apr. 26	.....	Apr. 16	May 4	Apr. 19	.....	.....	Apr. 18	Apr. 23	May 1	Apr. 24
Tree Swallow	.....	Apr. 25	May 8	.....	.....	Apr. 17	May 4	.....	.....	Apr. 18	.....	.....	May 2	Apr. 24		

	Beverly, N. J.	Rancocas, N. J.	Moorestown, N. J.	Haddonfield, N. J.	Audubon, N. J.	Swarthmore, Pa.	Lansdowne, Pa.	Media, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Hunting Park, Phila.	Chestnut Hill, Phila.	Frankford, Phila.
Bank Swallow	May 9	.....	.....	.....	.....	Apr.18	May 18	.....	Apr.22	Apr.18	.....	.....	May 23	.....	.....	May 2
Rough-winged Swallow.	.....	.....	.....	.....	.....	.....	.....	Apr.13	.....	May 10	.....	.....	.....	.....	Apr.18	Apr.24
Cedar Bird	.....	.....	Apr.23	.....	.....	Mar. 4	.....	Apr. 5	Apr. 3							
Red-eyed Vireo	May 9	May 12	May 8	May 7	May 8	May 13	Apr.30	May 8	May 13	May 10	.....	May 8	May 3	.....	May 13	May 9
Warbling Vireo	.....	May 11	May 6	May 9	.....	May 9	.....	.....	.....	May 9	Apr.30	.....	May 9			
Yellow-throated Vireo.	.....	May 13	May 7	May 9	Apr.30	May 7	.....	May 21	.....	May 17	.....	.....	May 6	.....	May 30	
Solitary Vireo	.....	.....	Apr.25	.....	.....	Apr.29	.....	.....	.....	May 6						
White-eyed Vireo	.....	May 6	May 2	Apr.20	Apr.30	May 18	May 9	May 6	May 9	May 16						
Black and White W'b'l'r	May 2	Apr.26	Apr.16	.....	Apr.26	Apr.28	Apr.30	May 2	Apr.30	Apr.30	May 4	Apr.23	Apr.20	.....	.....	Apr.21
Worm-eating Warbler.	.....	.....	.....	.....	.....	Apr.30										
Blue-winged Warbler.	May 9	.....	May 1	.....	.....	May 9	.....	May 11	.....	May 9	.....	.....	May 8	.....	May 16	May 18
Parula Warbler	.....	May 6	Apr.25	.....	May 6	Apr.30	May 23	May 14	May 13	May 10	.....	May 18	.....	.....	May 16	
Yellow Warbler	Apr.28	Apr.30	Apr 29	May 4	Apr.30	May 12	May 9	May 7	May 4	May 10	.....	.....	May 2	.....	May 17	Apr.30
Black-thr'd Blue W'b'r.	.....	May 1	.....	.....	May 10	May 2	May 20	.....	May 19	May 3	.....	May 8				
Myrtle Warbler	Apr.26	Apr.20	Apr.19	May 2	Apr.23	Apr.21	Apr.28	Apr.26	Apr.25	Apr.30	.....	May 1	Apr.19	.....	Apr.10	Apr.21
Magnolia Warbler	.....	.....	.....	.....	.....	May 16	.....	.....	May 19	May 16	.....	May 1	.....	.....	Apr.28	
Chestnut-sided Warbler.	.....	.....	.....	.....	.....	May 3	.....	.....	May 5	May 10	.....	May 8	May 5	.....	May 16	
Black-poll Warbler	.....	May 14	May 14	.....	May 10	May 12	May 23	May 15	May 16	May 10	.....	May 12	May 17			
Blackburnian Warbler.	May 10	.....	.....	.....	.....	May 21	May 6	.....	May 19	.....	.....	May 21				
Black-thr'd Green W'b'r	.....	May 1	Apr.29	.....	May 7	Apr.28	May 6	May 6	May 1	May 3	May 6	May 1	.....	.....	May 2	
Pine Warbler	.....	.....	Apr.25	.....	.....	Mar.15	.....	.....	Apr. 3							
Yellow Palm Warbler.	.....	.....	Apr.19	.....	Apr.24	May 2	.....	Apr.24	Apr.10	Apr.11	.....	.....	Apr.11	.....	.....	Apr.21
Prairie Warbler	.....	Apr.30	May 8	.....	.....	.....	.....	May 10								
Ovenbird	May 9	Apr.30	Apr.30	May 6	Apr.30	May 2	Apr.29	Apr.29	Apr.30	May 10	May 1	May 1	Apr.27	.....	May 2	May 9

	Beverly, N. J.	Rancocas, N. J.	Moorestown, N. J.	Haddonfield, N. J.	Audubon, N. J.	Swarthmore, Pa.	Lansdowne, Pa.	Media, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Hunting Park, Phila.	Chestnut Hill, Phila.	Frankford, Phila.
Water Thrush	.....	.....	May 12	.....	May 4	May 1	May 23	.....	May 10	May 16	.....	.....	.....	.....	May 17	May 18
Kentucky Warbler	.....	.....	.....	.....	.....	May 7	May 8	May 15	May 10	May 10	.....	.....	May 18	.....	May 6	.....
Maryland Yellow-throat	Apr. 29	Apr. 24	Apr. 23	May 2	Apr. 30	Apr. 29	Apr. 29	Apr. 27	May 3	May 9	May 6	May 1	Apr. 30	.....	May 16	May 9
Chat	.....	May 6	May 6	.....	May 9	May 6	May 5	May 3	May 11	May 10	.....	.....	.....	.....	May 16	May 9
Canada Warbler	.....	.....	May 18	.....	.....	May 21	May 22	May 21	May 19	May 9	.....	May 18	.....	.....	.....	.....
Redstart	.....	May 9	May 2	.....	May 9	May 4	May 20	May 20	May 3	May 10	.....	May 8	May 12	.....	May 17	May 19
Catbird	.....	Apr. 30	May 3	Apr. 30	May 2	Apr. 30	May 1	May 3	May 3	May 1	Apr. 30	May 7	May 8	May 2	.....	May 6	Apr. 30
Brown Thrasher	.....	.....	Apr. 24	Apr. 5	Apr. 26	Apr. 26	Apr. 20	Apr. 29	Apr. 22	Apr. 22	May 3	.....	.....	.....	Apr. 25	Apr. 23
House Wren	.....	May 1	Apr. 23	Apr. 20	May 11	Apr. 24	Apr. 28	May 9	Apr. 24	May 4	Apr. 30	.....	Apr. 28	Apr. 27	.....	May 2	May 5
Long-bill'd Marsh Wren	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 13
Ruby-crowned Knight	.....	.....	Apr. 16	Apr. 13	.....	Apr. 19	Apr. 27	Apr. 19	Apr. 5	Apr. 10	Apr. 19	Apr. 5	Apr. 17	Apr. 19	.....	Apr. 11	May 6
Wood Thrush	.....	May 9	May 5	May 2	.....	Apr. 30	Apr. 30	Apr. 30	May 2	Apr. 30	May 3	May 4	May 8	May 5	.....	May 2	Apr. 30
Wilson's Thrush	.....	.....	May 1	Apr. 25	May 6	.....	Apr. 30	May 21	May 2	Apr. 24	.....	.....	May 1	May 15	.....	May 2	.....
Gray-checked Thrush	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 3	.....	May 26	.....	.....	.....	.....
Olive-backed Thrush	.....	.....	May 25	.....	.....	May 14	.....	.....	May 19	May 16	.....	.....	May 18	May 13	.....	.....	.....
Hermit Thrush	.....	Apr. 19	.....	Apr. 5	.....	Apr. 13	Apr. 11	Apr. 10	Apr. 19	Apr. 11	Apr. 11	.....	Apr. 17	Apr. 4	.....	Apr. 18	Apr. 17
Robin	.....	Mar. 4	Mar. 5	Mar. 1	Mar. 5	.....	Mar. 2	Mar. 4	Mar. 3	Mar. 2	Mar. 4	Mar. 2	Mar. 18	Mar. 4	.....	Mar. 1	Mar. 6
Bluebird	.....	Mar. 4	Feb. 4	.....	.....	.....	.....	.....	Mar. 10	Feb. 28	Feb. 21	Mar. 2	Mar. 24	Mar. 1	.....	Jan. 5	Mar. 2

Flicker .....
Whip-poor-will ....
Night Hawk.....
Chimney Swift.....
Hummingbird .....
Kingbird .....
Great Crested Flyc
Phoebe .....
Bobolink .....
Cowbird .....
Red-winged Blackb
Baltimore Oriole ....
Purple Grackle .....
Chipping Sparrow ..
Chewink .....
Indigobird .....
Scarlet Tanager ....
Purple Martin .....
Barn Swallow .....
Red-eyed Vireo .....
Black and White W
Chestnut-sided War
Ovenbird .....
Maryland Yellow-th
Chat .....
Catbird.....
Brown Thrasher ...
House Wren.....
Wood Thrush .....
Hermit Thrush .....
Robin .....
Bluebird .....



	Philadelphia District					Cape May, N. J.	Downstown, N. J.	Pt. Pleasant, N. J.	Kennett Square, Pa.	Concordville, Pa.	Lenape, Pa.	Westtown, Pa.	West Chester, Pa.	Berwyn, Pa.	Downingtown, Pa.	Perkasie, Pa.	Yardville, N. J.	Bristol, Pa.	Woodbourne, Pa.	Marietta, Pa.	Williamsport, Pa.	Lopez, Pa.
	Moorestown Sect.	Baldonfield Sect.	Swarthmore Sect.	Ardmore Sect.	Germantown Sect.																	
Flicker	Mar. 10	Mar 10	Mar 14	Mar. 1	Feb. 10	.....	Mar. 14	.....	Mar. 17	Mar. 13	Mar 14	Feb. 10	.....	Feb. 11	Feb. 27	Mar. 19	Mar. 21	Mar 29	.....	Mar. 18	Mar. 21	Mar. 20
Whip-poor-will	Apr. 27	May 5	Apr. 28	May 1	May 8	Apr. 26	Apr 22	.....	.....	May 4	.....	.....	.....	.....	.....	.....	.....	.....	.....	Apr. 30	May 9	May 8
Night Hawk	.....	.....	Apr. 30	Apr. 29	May 10	.....	.....	.....	.....	.....	.....	May 27	.....	.....	.....	May 15	.....	.....	.....	May 3	May 9	
Chimney Swift	Apr 19	Apr 22	Apr. 13	Apr. 19	Apr 21	Apr. 19	Apr 26	Apr 30	Apr 20	Apr 20	Apr. 17	Apr 20	Apr. 12	Apr. 21	Apr. 23	Apr. 22	Apr. 27	Apr. 20	Apr. 20	Apr. 16	May 8	Apr. 30
Hummingbird	May 6	.....	Apr 16	.....	.....	.....	Mar 8	.....	.....	.....	.....	May 10	.....	May 17	.....	.....	May 21	.....	.....	May 12	May 17	
Kingbird	May 2	May 9	May 21	May 3	May 9	Apr. 27	May 3	.....	May 1	May 7	May 1	May 3	.....	May 5	May 3	May 7	May 10	May 9	May 14	May 4	May 8	May 13
Great Crested Flycatcher	May 4	May 2	May 8	May 8	May 6	.....	May 10	.....	May 10	May 3	.....	May 6	May 10	Apr 19	May 8	.....	May 7	May 9	May 14	May 7	May 19	
Phoebe	Mar. 17	.....	Mar 6	Mar. 15	Mar 8	.....	.....	.....	Mar 17	Mar. 13	Mar 12	Mar. 15	Mar. 15	Mar. 15	Mar. 23	Mar. 27	Mar. 18	Mar. 15	Apr. 3	Apr. 16	Mar. 18	Mar. 18
Bobolink	Apr 30	Apr 30	Apr. 30	May 6	May 11	.....	.....	.....	.....	May 8	May 4	May 9	.....	.....	.....	.....	.....	May 3	May 3	May 2	May 27	
Cowbird	May 2	Mar 1	Mar. 13	Mar 15	Apr 30	.....	.....	Mar. 22	.....	Apr. 18	Mar. 14	Mar. 21	Mar. 15	Mar 3	Apr. 6	Apr. 11	.....	Apr 26	May 3	Apr. 1	Mar. 9	Apr. 4
Red-winged Blackbird	Mar. 1	Mar. 10	Mar. 2	Feb. 27	Mar. 6	Feb 26	Feb 24	Mar 12	Mar. 12	Mar 2	Feb 28	Mar. 4	Mar. 15	Feb. 1	Mar. 1	Mar. 8	Mar. 20	Mar. 1	.....	Mar 27	Mar 14	Mar. 12
Baltimore Oriole	May 2	May 1	May 5	May 5	May 7	Apr. 30	May 4	.....	May 3	May 2	May 6	May 8	May 10	May 11	May 3	May 8	.....	Mar. 3	May 3	May 2	May 3	
Purple Grackle	Feb. 13	Mar. 17	Feb. 27	Feb 28	Mar 1	Feb. 26	Apr. 1	Mar. 12	Feb. 27	Feb. 15	Feb. 24	Feb. 13	Mar. 15	Mar. 2	Feb. 27	Mar. 1	Mar. 1	Mar. 1	Feb. 13	Feb 28	Mar. 9	Mar. 3
Chipping Sparrow	Mar. 21	Apr. 2	Mar. 20	Mar. 21	Apr. 2	Apr. 8	Mar 20	Mar. 20	Mar 17	Mar. 27	.....	Mar. 27	Apr. 19	Mar. 19	Apr. 10	Apr. 1	Mar. 27	Mar. 24	Mar 25	Apr. 10	Apr. 18	Apr. 18
Chewink	Apr. 20	May 1	Apr. 10	Apr. 12	Apr 3	.....	Apr. 26	Apr. 29	Apr 30	Apr 20	Apr. 25	May 1	.....	Apr. 7	May 1	Apr. 25	Apr. 30	Apr 26	May 3	May 7	May 16	May 10
Indigobird	May 25	May 3	May 4	May 8	May 1	.....	.....	.....	May 12	May 7	.....	May 6	May 10	.....	May 16	.....	May 10	.....	.....	May 10	May 27	May 25
Scarlet Tanager	May 9	May 6	May 2	May 8	May 3	.....	May 24	.....	.....	May 6	May 5	May 14	May 10	Apr. 25	May 12	.....	.....	.....	Mar 10	May 15	May 16	May 14
Purple Martin	Apr 2	Mar. 28	Apr. 10	May 15	.....	Apr 8	Apr. 8	.....	Apr. 27	Apr. 9	Apr. 10	May 9	Mar. 24	Apr. 23	Apr. 8	Mar 28	.....	May 10				
Barn Swallow	Apr. 19	Apr 25	Apr. 16	Apr. 19	Apr. 18	Apr. 19	May 18	.....	Apr 18	Apr 28	Apr. 18	Apr. 27	Apr. 26	.....	Apr. 10	Apr. 11	.....	Apr 12	May 1	May 10	May 16	Apr 29
Red-eyed Vireo	May 8	May 7	Apr. 30	May 8	May 3	.....	May 14	.....	.....	May 4	.....	May 10	May 16	May 9	May 10	May 6	May 20	May 9	May 18	May 20	May 16	May 9
Black and White Warbler	Apr 16	Apr 26	Apr. 28	Apr. 28	Apr 20	.....	May 3	.....	May 3	May 5	.....	Apr. 30	May 2	Apr. 30	May 2	May 1	Apr. 28	Apr. 26	.....	.....	May 8	May 9
Chestnut-sided Warbler	.....	.....	May 3	May 5	May 5	.....	.....	.....	.....	.....	.....	May 10	May 10	.....	May 14	May 9	.....	May 10	.....	.....	.....	May 9
Ovenbird	Apr 30	Apr 30	Apr. 29	Apr. 30	Apr 27	.....	May 3	.....	May 5	Apr. 30	May 8	Apr. 30	May 2	May 1	May 9	May 1	May 5	May 3	May 20	.....	May 8	May 12
Maryland Yellow-throat	Apr. 23	Apr. 30	Apr 27	May 1	Apr. 30	.....	Apr. 19	Apr. 25	May 3	.....	.....	May 4	May 6	May 6	May 6	May 1	May 1	Apr. 26	May 3	.....	May 16	May 12
Chat	May 6	May 9	May 3	May 10	May 9	.....	May 24	.....	.....	May 16	May 9	.....	May 9	May 10	May 6	May 16	May 21	May 12	May 10	.....	May 15	
Catbird	Apr. 30	Apr. 30	May 1	Apr. 30	Apr 30	.....	May 3	Apr. 29	May 2	May 2	May 4	Apr. 30	May 2	Apr. 30	Apr. 28	May 6	May 1	May 1	May 3	May 2	May 8	May 11
Brown Thrasher	Apr. 24	Apr. 26	Apr 29	Apr. 22	Apr. 23	Apr. 20	Apr. 27	Apr. 30	Apr. 27	Apr. 20	Apr. 23	May 5	Apr. 19	Apr. 24	May 11	Apr. 25	May 3	May 3	May 3	Apr. 11	May 7	May 4
House Wren	Apr. 20	Apr 24	Apr. 24	Apr 28	Apr 29	.....	Apr. 24	.....	Apr. 20	Apr. 25	Apr. 22	May 9	.....	Apr 25	May 2	May 2	Apr. 26	May 2	.....	Apr. 13	May 6	May 5
Wood Thrush	May 2	Apr. 30	Apr. 30	Apr. 30	Apr. 30	.....	May 9	Apr. 28	Apr. 30	May 7	.....	May 6	May 2	Apr. 30	May 6	May 6	May 2	May 9	.....	Apr. 24	May 8	Apr. 24
Hermit Thrush	Apr. 5	Apr. 13	Apr 10	Apr. 11	Apr. 4	.....	.....	.....	Apr 19	Apr. 20	.....	Apr 6	Apr. 12	.....	.....	Apr. 19	.....	Apr 13	Apr. 19	Apr. 21	.....	Apr. 4
Robin	Mar. 1	Mar. 5	Mar. 2	Mar. 2	Mar 1	.....	Feb. 28	.....	Mar. 3	Mar 1	Mar. 3	Feb. 27	Mar. 15	Mar. 4	Mar. 2	Mar. 4	Feb. 14	Mar. 3	Mar. 7	Mar. 4	Mar. 5	Mar. 4
Bluebird	.....	.....	.....	.....	.....	.....	.....	.....	.....	Feb. 14	Mar. 1	Feb. 9	.....	Feb. 2	Feb. 26	Mar. 1	Mar. 6	Feb. 22	Feb. 12	Feb. 27	.....	Mar. 3

MIGRATION STATIONS NEAR PHILADELPHIA, 1903

TABLE II.

SPRING MIGRATION, 1903

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES IN THE FIVE PHILADELPHIA SECTIONS AND AT SEVENTEEN STATIONS OUTSIDE OF THE PHILADELPHIA CIRCLE.

List of Other Species Reported by Observers during 1903, and Additional Notes.

Horned Grebe. *Colymbus auritus.* At Lafayette, Pa., on Schuylkill river, April 25, a flock (*Day*).

Red-throated Loon. *Gavia lumme.* Three birds, apparently of this species, flying northward over Haverford, April 30, 5:20 a. m. (*Carter*).

Herring Gull. *Larus argentatus.* Observed at Philadelphia up to April 19 and at Atlantic City to April 27 (*Prendergast*).

American Bittern. *Botaurus lentiginosus.* Overbrook, April 3 (*Prendergast*); Marietta, April 23 (*Buller*).

Least Bittern. *Ardetta exilis.* Richmond, Philadelphia, May 28, also a nest (*Miller*).

Coot. *Fulica americana.* Berwyn, April 25 (*Burns*).

Clapper Rail. *Rallus longirostris crepitans.* First seen March 5; first eggs (three), April 14—unusually early (*Hand*).

Woodcock. *Philohela minor.* One caught in Philadelphia, March 7 (*Murphy*).

Wilson's Snipe. *Gallinago delicata.* Lansdowne, Pa., March 4 (*Austin*); Cape May, March 3 (*Hand*).

Yellow-legs. *Totanus melanoleucus.* Westtown, May 9 (*Smedley* and *Vail*).

Hudsonian Curlew. *Numenius hudsonicus.* Cape May, April 27. A large flight of Curlew, Yellow-legs and Plover passed over Cape May all through the night of April 29 (*Hand*).

Upland Plover. *Bartramia longicauda.* Cupola, Chester county, May 3 (*Hunt*); Lenape, April 24 (*W. Carter*); Bristol, May 10 (*Keim*); Marietta, March 27 (*Buller*).

Killdeer. *Oxyechus vociferus.* Formerly remained at Marietta all winter in open seasons now only seen occasionally in autumn (*Buller*).

Bobwhite. *Colinus virginianus.* A few wintered at Overbrook. Found nesting 1902 along the Montgomery pike in Philadelphia county, and a nest with six eggs was found in the same spot July 21, 1901 (*Hunt*).

Turkey Vulture. *Cathartes aura.* Plentiful at Lenape all winter, probably attracted to neighborhood by offal thrown out

from a slaughter-house between there and West Chester (*W. Carter*).

Duck Hawk. *Falco peregrinus anatum.* One shot November, 1902, at Lenape, Pa. (*W. Carter*).

Rough-legged Hawk. *Archibuteo lagopus sancti-johannis.* Bridesburg, Philadelphia, February 24 (*Miller*).

Long-eared Owl. *Asio wilsonianus.* We have had a colony of these Owls in a Norway fir near the house, Yardville, N. J., for ten winters at least. During the ice storm (February, 1902) the tree was much broken and most of the birds left, two of them remained, however, until the middle of April. December 26, 1902, one appeared in the old haunt but only spent the night and none have returned since (*Allinson*).

Kingfisher. *Ceryle alcyon.* One wintered at Schellenger's Landing, Cape May (*Hand*).

Horned Lark. *Otocoris alpestris.* Common at Ardmore, after snow and cold weather, February 19 and 23, and a flock of fifteen on Ridley creek, February 23 (*Baily*). Flock of a dozen at Swarthmore, February 19 (*Way*). Common at Downingtown February 20–26, in flocks of fifteen to thirty (*Pennell*); Bristol, February 20, eight or ten (*Keim*). A large flock at Cape May all winter (*Hand*).

Alder Flycatcher. *Empidonax traillii alnorum.* One in alders along stream near Audubon, May 3. Very tame, catching minute flies and continually uttering a quick little call note "tick" or "ic," no song (*Rhoads*).

Olive-sided Flycatcher. *Nuttallornis borcalis.* Arrived at Lopez, May 18 (*Behr*).

Blue Jay. *Cyanocitta cristata.* None seen at Ardmore until May (*Baily*). Did not winter at Media as they usually do, and were not seen till April 16 (*Allen*).

Meadow Lark. *Sturnella magna.* Wintered at Moylan, Del. Co., Pa. (*Allen*). In open winters it is resident at Marietta (*Buller*).

Rusty Blackbird. *Scolecophagus carolinus.* Near Lenape, Pa., March 14 (*Carter*).

Purple Finch. *Carpodacus purpureus.* Two at Moorestown, N. J., both singing, none observed during the winter (*Mickle*). Reached Lopez, April 12 (*Behr*).

Redpoll. *Acanthis linaria.* Frankford, Phila., February 2 (*Miller*).

White-crowned Sparrow. *Zonotrichia leucophrys.* Lopez, May 18 (*Behr*).

White-throated Sparrow. *Zonotrichia albicollis.* Last seen at Overbrook, May 19 (*Hunt*); Media, May 16 (*Allen*); Bristol May 10 (*Keim*).

Junco. *Junco hyemalis.* Last seen at Overbrook, May 1 (*Hunt*); at Downstown, N. J., April 22 (*Fair*); at Bristol, April 19 (*Keim*).

Tree Sparrow. *Spizella monticola.* Last seen at Bristol, March 1 (*Keim*).

Song Sparrow. *Melospiza cinerea melodia.* Reached Lopez, March 14. It is not resident there (*Behr*).

Fox Sparrow. *Passerella iliaca.* Overbrook, January 11, 18 and February 22 (*Hunt*).

Northern Shrike. *Lanius borealis.* One wintered near Concordville, have seen but one here previously (*Styer*).

White-breasted Swallow. *Iridoprocne bicolor.* Large numbers of this and other Swallows roost every night in late summer and autumn in a grove of trees on the grounds of Dr. Physick at Cape May. During the storm of September 16, 1903, they were almost drowned by the beating rain. In the morning the number of birds on the ground was estimated at from 6,000 to 7,000, but only about 75 were so badly injured that they could not recover. While on the ground, they could be picked up in the hand without the slightest difficulty (*Hand*).

Golden-winged Warbler. *Helminthophila chrysoptera.* Swarthmore, May 21 (*Way*).

Nashville Warbler. *Helminthophila rubricapilla.* Chestnut Hill, Philadelphia, May 3 (*W. H. Trotter*).

Bay-breasted Warbler. *Dendroica castanea.* May 18, Swarthmore (*Hannum*).

Louisiana Water Thrush. *Seiurus motacilla.* Chestnut Hill, Philadelphia, April 18 (*W. H. Trotter*). Undoubtedly nests at West Chester; a pair have been seen in the same locality for a number of years but the nest has not been found (*Jackson*).

Wilson's Warbler. *Wilsonia pusilla.* May 19, Overbrook (*Onderdonk*).

Hooded Warbler. *Wilsonia mitrata.* Swarthmore, May 2 (*Way*); Bristol, May 10 (*Keim*); Downstown, N. J., May 10 (*Fair*).

Mourning Warbler. *Geothlypis philadelphia.* Arrived at Lopez May 19 (*Behr*).

Titlark. *Anthus pensilvanicus.* Haverford, Pa., March 13 (*Carter*); West Chester, March 15, about a hundred (*Jackson*).

Mockingbird. *Mimus polyglottos.* Point Pleasant, N. J., one resident winter 1902–3 (*Murphy*).

Brown Thrasher. *Toxostoma rufum.* One wintered at Awbury, Germantown (*H. Evans*).

Carolina Wren. *Thryothorus ludovicianus.* Young had left the nest at Overbrook and were able to fly May 10 (*Hunt*).

Bewick's Wren. *Thryomanes bewickii.* One seen at Kennett Square, close at hand, April 19 (*Pennock*).

Winter Wren. *Olbiorchilus hicmalis.* Last seen at Bristol, Mareh 29 (*Keim*).

Brown Creeper. *Certhia familiaris americana.* Last seen at Bristol, April 13 (*Keim*).

Golden-crowned Kinglet. *Regulus satrapa.* Last seen at Bristol, April 11 (*Keim*).

Wood Thrush. *Hylocichla mustelina.* Several pairs nest regularly in the town of West Chester (*Jackson*).

Robin. *Merula migratoria.* Young flying about at Overbrook, May 17 (*Hunt*). One wintered at Awbury, Germantown. One early in January at Villa Nova (*Baily*) and a number at Haverford, February 12 (*Baily*).

Bluebird. *Sialia sialis.* More numerous than I have ever seen them, at least twenty pairs nested about West Chester (*Jackson*). Remained as far north as Williamsport all winter (*Koch*).

Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1903

January 2, 1903.—Annual meeting. Twenty-seven members present. The present officers were re-elected as follows:

President—Charles J. Pennock.

Vice-President—William A. Shryock.

Secretary—William B. Evans.

Treasurer—Stewardson Brown.

Mr. Elmer Onderdonk was elected an Associate member.

Mr. William L. Baily exhibited a series of lantern slides illustrating the life of the Herring Gull (*Larus argentatus*) on Duck Island, Maine (see *Auk*, October, 1903).

January 15, 1903.—Nineteen members present.

An amendment to the By-Laws was adopted, increasing the limit in the number of Active members to twenty.

Mr. Henry W. Fowler reviewed his twelve months' residence in California, dwelling particularly upon the bird-life of Palo Alto and Monterey, and describing the personnel and the meetings of the Cooper Ornithological Club.

A record of the capture of a Red-throated Loon (*Gavia lumme*) and Brünnich's Murre (*Uria lomvia*) at Williamsport, December 13, 1902, received from Mr. August Koch was read.

A number of Christmas Day lists were read. Wm. B. Evans recorded the largest number of species, twenty-four (see *Bird Lore*, February, 1903).

The most interesting winter occurrences were the following:

Long-eared Owl (*Asio wilsonianus*) and Turkey Vulture, (*Cathartes aura.*) Kennett Square, Chester Co., Pa., December 26, 1902. C. J. Pennock.

Field Sparrow (*Spizella pusilla*) December 25, 1902, Wynnewood, Pa. Wm. L. Baily.

Flicker (*Colaptes auratus luteus*) West Fairmount Park, December 25. Dr. J. F. Prendergast.

Phoebe (*Sayornis phoebe*), Rusty Blackbird (*Scolecophagus carolinus*) twenty-eight Turkey Vultures (*Cathartes aura*) and a flock of Horned Larks (*Otocoris alpestris*) Lenape, Chester Co., Pa., December 25. J. D. Carter.

Wilson's Snipe (*Gallinago delicata*), four Rusty Blackbirds, (*Scolecophagus carolinus*) and two Northern Shrikes (*Lanius borealis*) Moorestown, N. J., December 25. Wm. B. Evans.

Fox Sparrow (*Passerella iliaca*) Overbrook. C. J. Hunt.

Mr. G. S. Morris described a trip to Cape Charles, Va. Twenty Ipswich Sparrows (*Passerculus princeps*), one Snow Bunting, (*Passerina nivalis*), and two Terns (apparently *Sterna hirundo*) were among the species noted.

February 5, 1903.—Twenty members present.

Mr. Henry W. Fowler and Dr. Spencer Trotter were elected to Active membership. Mr. Chas. J. Rhoads resigned from Active membership and was transferred to the Associate list.

Mr. Wm. L. Baily described a tract of ground surrounding his home at Ardmore and by a map illustrated the location of the birds' nests that he had found thereon. In six years twenty-eight species had been found breeding in the tract which comprises forty acres. In 1902 one hundred and two nests were found.

Mr. Wm. J. Serrill reported two Flickers (*Colaptes auratus luteus*) on Crum creek a few days previously.

A curious hybrid, between the Mallard (*Anas boschas*) and Green-winged Teal (*Nettion carolinensis*) was exhibited, secured by Dr. Chas. B. Penrose on Currituck Sound, North Carolina. (*Auk*, 1903, p. 209.)

February 19, 1903.—Sixteen members present.

Mr. James A. G. Rehn was elected an Active member and Messrs. J. Fletcher Street, J. Harold Austin and Walter R. White, Associate members.

A discussion was held on certain species of *Fringillidæ*.

On behalf of Mr. C. J. Pennock, three records of the Snow Bunting (*Passerina nivalis*), near Kennett Square, Pa., were read; one seen about the winter of 1870–71, three specimens secured in 1886 and a small flock observed in 1900.

Several instances were given of the Cardinal (*C. cardinalis*) probably attracted by its own reflection in a window-glass, tapping on the pane at intervals with its beak.

J. D. Carter recorded a White-crowned Sparrow (*Zonotrichia leucophrys*) in the school museum at Westtown, taken some years since.

Dr. Trotter reported seven Horned Larks (*Otocoris alpestris*) at Swarthmore, February 19, 1903.

March 5, 1903.—Twenty members present.

Mr. Witmer Stone spoke of the work of the A. O. U. Committee on Nomenclature, as it affected the names of our local birds.

A discussion on the *Tyrannidæ* of Pennsylvania and New Jersey followed.

Only two records of the Olive-sided Flycatcher (*Nuttallornis borealis*) in the vicinity of Philadelphia have come to the Club's notice; one obtained at Holmesburg, Philadelphia, September 5, 1895, by F. F. Cartledge, the other on the Brandywine, near Mortonville, Chester Co., Pa., May 4, 1898, by Witmer Stone.

Mr. A. C. Emlen stated that a Brown Thrasher (*Toxostoma rufum*) had wintered at Germantown, remaining through some very cold weather.

March 19, 1903.—Nineteen members present.

Mr. Samuel N. Rhoads described a trip to Tamaulipas, Mexico, taken early in January, and spoke particularly of the habits of the Little Mexican Crow (*Corvus mexicanus*), Banded Kingfisher (*Ceryle torquata*), Military Macaw (*Ara militaris*) and Brown Jay (*Psilorhinus mexicanus.*)

April 2, 1903.—Twenty-four members present.

Mr. John H. Steele was elected to Associate membership.

Mr. W. W. Justice, Jr., described a gunning trip to Broadwater, Virginia, December 24–28, 1902, and a second visit dur-

ing February. He stated that Killdeers wintered in considerable numbers about this point. The following ducks were noted: Brant (*Branta bernicla*), Canada Goose (*B. canadensis*), Golden-eye (*Clangula c. americana*), Butter-ball (*Charitonetta albeola*), Old Wife (*Harelda hyemalis*), Pintail (*Dafila acuta*), Black Duck (*Anas obscura*), Merganser (*M. americanus*), a single Redhead (*Aythya americana*), both Bluebills (*A. marila* and *A. affinis*) and also the Pied-billed Grebe (*Podilymbus podiceps.*)

Mr. Morris, speaking of the stooling of ducks, said that in his experience at Cape Charles, Va., the Bluebills are restless, making but a short stop, the Golden-eye commonly alights at a distance and swims into the stools, the Black Ducks evidently recognize decoys, simulating their own species, while the Grebe yields to the attraction of almost any decoy. The Redhead he considered to be on the increase in the locality spoken of.

Mr. Stone called attention to the need of more accurate information on the breeding ranges of birds between the vicinity of Philadelphia and the first ridges of the mountains, and suggested this as a very desirable field for future work.

April 16, 1903.—Sixteen members present.

A canoe trip down the Egg Harbor river from opposite Hammonton to Mays Landing, N. J., through the heart of the pine barrens, was described. William B. Evans and Witmer Stone were in the party, which left Hammonton April 3, on a warm day almost like summer. During the night, while encamped along the river bank among the pines, the temperature fell rapidly and by morning it was bitterly cold, with a drizzling rain which afterward turned to snow. In the Weymouth dam, a large body of water covered with partly-submerged cedar trees, the party encountered numbers of Tree Swallows (*Iridoprocne bicolor*) flying close to the water and beating their way against the driving snow.

Farther down stream numerous Black Ducks were encountered, together with a Mallard and a Wood Duck. Ruffed Grouse were heard drumming at nine o'clock at night at the second camping place and Pine Warblers (*Dendroica vigorsii*) were noticed gathering nesting materials. Purple Martins

(*Progne subis*) were likewise observed but no other spring arrivals, owing no doubt to the severe weather.

Mr. Morris stated that Crows had eggs on April 10.

May 7, 1903.—Nineteen members present.

Dr. Spencer Trotter spoke on the Present and Past Distribution of the Black-throated Bunting (*Spiza americana*) and Mr. Rhoads made some additional remarks on the subject (see *antea*, pp. 17–28).

Mr. Coggins spoke of the Night Heron colonies at Red Bank, N. J., and Port Kennedy, Pa., and Mr. De Haven described a very large heronry formerly existing on Long Island. The peculiarly irregular nature of the spring migration was commented upon, the arrival of the bulk of many species being long after the first records.

May 21, 1903.—Twenty-four members present.

Rev. John H. Hackenberg was elected an Associate member.

Mr. C. J. Pennock described a trip to Cape May, N. J. On April 11, he noted Bald Eagle (*Haliaetus leucocephalus*), Red-bellied Woodpecker (*Centurus carolinus*), and Blue-Gray Gnatcatcher (*Polioptila caerulea*), one specimen each of the last two being secured. In all thirty-nine species were observed. Herring Gulls were still plentiful on April 13.

Mr. S. N. Rhoads who visited Cape May Point, May 16–19, observed fifty-eight species of land and ten of water birds. He found a pair of Gnatcatchers with a nest and five eggs. The nest was placed in an oak about eleven feet from the ground. He also found three pairs of Henslow's Buntings (*Ammodramus henslowii*).

Mr. Baily stated that May 19 had been the only day upon which there was anything like a "wave" of migratory birds.

A field excursion to Medford, N. J., was announced for May 30–31.

October 1, 1903.—Twenty-four members present.

Mr. S. N. Rhoads described several trips to southern Delaware, the more important one being to the Choptank river-bottoms near Marydel, June 6, 1903. Here he found such

birds as the Prothonotary Warbler (*Protonotaria citrea*), Cerulean Warbler (*Dendroica caerulea*), Summer Tanager (*Piranga rubra*), Red-billed Woodpecker (*Centurus carolinus*), Louisiana Water Thrush (*Seiurus motacilla*), Kentucky Warbler (*Geothlypis formosa*) and Gnatcatcher (*Polioptila coerulea*). While along with them occurred the Redstart (*Setophaga ruticilla*) a species hardly to be expected in such an association. Later trips farther south brought to light the Brown-headed Nuthatch (*Sitta pusilla*) and Yellow-throated Warbler (*Dendroica dominica*).

Mr. Stone described the discovery of a colony of several pairs of Henslow's Buntings (*Ammodramus henslowii*) in a bog north of Lindenwold, N. J., on August 1, 1903. This is the nearest point to Philadelphia at which the bird has yet been found.

Mr. C. J. Hunt reported the Red-headed Woodpecker (*Melanerpes erythrocephalus*) nesting near 59th Street and Lancaster Ave., Phila.

Mr. McCadden exhibited a Northern Phalarope (*Phalaropus lobatus*) shot at Stone Harbor, N. J., September 4, 1903. On the same day he observed two Mockingbirds (*Mimus polyglottos*).

Mr. Kester reported the capture of Swallow-tailed Kite (*Elanoides forficatus*) August 8, 1894, near Jerseytown, Pa., specimen now in the possession of Mr. William Kester, of Jerseytown.

October 15, 1903.—Twenty-seven members present.

Dr. Wm. E. Hughes described a trip taken in company with William L. Baily to the prairie sloughs of North Dakota during June of the present year and exhibited sets of eggs of many of the different species of Ducks found nesting in this region. Mr. Baily followed with an exhibition of lantern slides from photographs taken on the trip.

November 5, 1903.—Twenty members present.

Dr. Spencer Trotter described the experiences of another summer spent in Nova Scotia, and exhibited a number of specimens which he had secured. (See *Auk*, Jan., 1904).

Mr. Pennock spoke of a trip to Millsboro, Delaware, during October, and reported the Pileated Woodpecker (*Ceophloeus pileatus abieticola*) as rather plentiful in that vicinity. He spoke

also of a number of peculiar local names applied to well-known birds by the residents.

November 17–19.—The American Ornithologists' Union held its twenty-first congress in Philadelphia, and the meeting due November 19 was omitted.

December 3, 1903.—Sixteen members present.

Messrs. Wm. E. Hannum and Asa P. Way were, by request, transferred to the Corresponding membership, both having become non-residents. Letters were read from both of these gentlemen dealing with birds observed by them respectively at Buena Vista, Colorado, and Dayton, Ohio.

Mr. Stone reported a female Pine Grosbeak (*Pinicola enucleator leucura*) obtained by Mr. Wood near Reading, Pa., November 7, 1903. He had personally examined the specimen. This occurrence was particularly interesting in connection with the numerous and unusually early records of this species from various points to the north, especially in New England.

Mr. Rehn reported a Barn Owl (*Strix pratincola*) recently presented to the museum by Mr. J. D. Gordon who had captured it at sea, 110 miles off the coast of St. Simon's Island, Georgia, as it took refuge on his ship.

December 17, 1903.—Nineteen members present.

Mr. Stone gave a summary of the observations on migration conducted by the Club during the spring (see pp. 58–69). He also reported two Pine Grosbeaks (*Pinicola enucleator leucura*) shot by Mr. Hazen Brown at Rock Hill, Pa., December 14, 1903, and exhibited the specimens.

Mr. W. L. Baily reported a Pine Grosbeak and many Crossbills on the Pocono mountain last month, and also gave a detailed account of a remarkable night flight of birds at this point in August last (see p. 54). He considered that part at least of the migrating body came from as far away as North Mountain, but Mr. Rhoads was of the opinion that they all came from the Pocono plateau.

Mr. S. N. Rhoads reported Crossbills (*Loxia curvirostra minor*) of almost daily occurrence about Audubon, N. J., this winter.

City Ornithology

The City Hall List for 1903

The following list is furnished by Mr. John H. Steele, who has visited Mr. C. H. Slaughter at the City Hall daily during the fall migration and made notes of the species killed each night:

Blue Jay, October 1.
Purple Finch, October 28.
Parula Warbler, October 1, 3, 6.
Nashville Warbler, September 28, October 1.
Tennessee Warbler, October 1.
Prairie Warbler, October 6.
Pine Warbler, October 1, 3, 11.
Connecticut Warbler, October 7.
Maryland Yellow-throat, September 28, October 6, 28.
Ovenbird, September 28.
Catbird, October 11.

The Blue Jay, like the Robin of last year, is a very unusual record, being, according to Prof. W. W. Cooke, the first instance of this species striking against a light.

Birds Observed at Sixteenth and Race Streets

As a contribution to city ornithology, the following list of birds observed in the grounds of the Friends' Western Burial Ground, which extend from Sixteenth to Seventeenth and from Race to Cherry, in the central part of Philadelphia, is of particular interest. The observations were made by Mary S. Allen mainly from the windows of the Friends' Library building, situated in the grounds; the latter, it may be added, are protected from the streets by a high brick wall.

1902

Robins and Brown Thrashers, frequently seen and probably nested.

Hermit Thrush, April 12 and 26.

Towhee, May 5.

Scarlet Tanager, May 10.

1903

Robins appeared April 1, two pairs seen almost daily and apparently nested.

Brown Thrashers seen almost daily, apparently nested.

Flicker, April 1, remained for about a week.

Hermit Thrush, a pair observed April 25 and 30, and May 1.

Towhee, a pair May 1 and one May 6.

White-throated Sparrow, a small flock May 1 and one on May 8.

Maryland Yellow-throat, one May 23.

Ovenbird, May 29.

Several Chimney Swifts visited the grounds May 27, and an occasional Crow [probably one of the Fish Crows which nest in Logan Square, 19th and Race Sts.—Ed.].

Bird Club Notes

For the portrait of John K. Townsend which appears as a frontispiece to this number of Cassinia we are indebted to his brother-in-law, Dr. Mahlon Kirk, of Oakdale, Maryland, who courteously loaned us a daguerreotype, probably the only likeness of Townsend now extant. From this an excellent photograph was made by Mr. H. Parker Rolfe, of Philadelphia. We are fortunate in having the assurance of Dr. Kirk and Dr. S. W. Woodhouse as to the faithfulness of the likeness, which is supposed to have been taken when Townsend was about twenty-eight or thirty years of age.

For the use of the Crow Roost photographs we are indebted to Mr. Charles D. Kellogg, who took these remarkable pictures, and to Mr. Frank M. Chapman, Editor of *Bird Lore*, who kindly loaned us the half-tone blocks, previously used in his magazine.

* * *

Fifteen meetings of the Club were held during 1903. The average attendance was twenty-one; forty-eight members being present at one or more meetings.

The average attendance for the past seven years—one hundred and ten meetings—has been twenty.

* * *

The primary object in the organization of the Delaware Valley Ornithological Club in 1890 was co-operation. Happily this fact has ever been kept prominently in view and its development has to-day reached a point not hitherto attained in the history of the organization. With one hundred and six members and twenty-three additional observers in the Bird Migration Corps, we have a body of students scattered over eastern Pennsylvania and New Jersey whose combined observations upon any species of bird or upon any phase of bird-life are bound to form a far more comprehensive treatise than could be prepared by any

one individual. The results of this co-operation are to be seen in the migration reports, as well as in most of the papers in the present number of CASSINIA, notably that on Crow Roosts, the Dickcissel and the Red-headed Woodpecker.

* * *

The Spencer F. Baird Club has held its meetings regularly throughout the year and reports a very successful season. The present officers are: President, Mrs. Edward Robins; Secretary, Mrs. Harry L. Davis; Treasurer, Mrs. William Channing Russel.

* * *

The National Committee of the Audubon Societies met at the residence of Mrs. Edward Robins, Philadelphia, November 18, 1903, with delegates representing fourteen state societies.

The annual meeting of the Pennsylvania Audubon Society has been postponed this year until Spring.

* * *

November 16–19, 1903, the American Ornithologists' Union convened in Philadelphia for the second time on the occasion of its twenty-first annual Congress. There were in attendance nineteen Fellows, one Corresponding Fellow, fifteen Members and forty-eight Associates, a total of eighty-three; the largest meeting ever held.

The D. V. O. C. contributed the following papers:

"New Bird Studies in Old Delaware," Samuel N. Rhoads and Charles J. Pennock.

"Exhibition of Lantern Slides of Young Raptorial Birds Photographed by Thos. H. Jackson, near West Chester, Pa.," Witmer Stone.

"Some Nova Scotia Birds," Spencer Trotter, M. D.

"Some Birds of Northern Chihuahua," William E. Hughes, M. D.

"Ten Days in North Dakota," William L. Baily.

"Two Neglected Ornithologists—John K. Townsend and William Gambel," Witmer Stone.

"Bird Life at Cape Charles, Va.," George Spencer Morris.

Dr. Samuel Woodhouse was elected a Corresponding Fellow, George Spencer Morris a Member, and Rev. J. H. Hackenberg and Anthony W. Robinson Associates.

* * *

As this number of CASSINIA is going through the press, we learn of the death of our Corresponding Member, Josiah Hoopes, at his home in West Chester, Pa., on January 16, 1903. While not an active participant in the meetings of the Club, Mr. Hoopes always maintained a lively interest in everything connected with ornithology, and a warm welcome and hearty hospitality awaited any bird-lover who visited him. Some fifteen years ago Mr. Hoopes began the formation of a collection of North American land birds in which every species and race were to be represented by a selected series of skins. He purchased only first class specimens and soon amassed a collection that for beauty and neatness of arrangement has seldom been equalled. A few years since, the collection, then numbering nearly 8,000 skins, was purchased by the Academy of Natural Sciences of Philadelphia, and the investigations of many students have since benefited from it.

Mr. Hoopes was born at West Chester, November 9, 1832, the son of Pierce Hoopes and Sarah Andrews Hoopes. He was educated in Philadelphia, where his family resided during his boyhood, and in 1850 returned to West Chester. He had always been deeply interested in botany, and determining to make this his business, he opened in 1853 a small greenhouse, which has to-day grown into one of the largest nursery establishments in the United States, under the firm name of Hoopes Brothers and Thomas. He spent some time in travel, visiting the various botanic gardens of Europe, and contributed numerous articles to horticultural journals, besides writing the "Book of Evergreens." He was active in all the educational undertakings of his native town, and was in other respects a public-spirited citizen. In 1866 he joined the Academy of Natural Sciences, and for some years was closely associated with Cassin, Turnbull, Bernard Hoopes and other ornithologists of that time —for botany being his business, birds were always his recreation.

It is a pleasure to recall his deep interest and enthusiasm at the Congress of the A. O. U. in Philadelphia four years ago, when he met for the first time the present leaders in his favorite science.

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OF THE

Delaware Valley Ornithological Club.

1904.

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* Date indicates year of election to Club.

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William L. Whitaker, Mitchell, Ind. 1893
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DECEASED MEMBERS.

Died.

J. Farnum Brown, Active member . . . . . May, 1894
John W. Detwiller, M. D., Corresponding member 1898
Josiah Hoopes, Corresponding member . . . . . January 16, 1904
Gilbert H. Moore, Associate member . . . . . May, 1899
William Patterson, Corresponding member . . . . . August 27, 1900
William W. Smith, Associate member . . . . . July 3, 1892

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CASSINIA

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PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB OF PHILADELPHIA

1904

ISSUED FEBRUARY, 1905.

CASSINIA

An Annual Devoted to the Ornithology of Pennsylvania, New Jersey, and Delaware.

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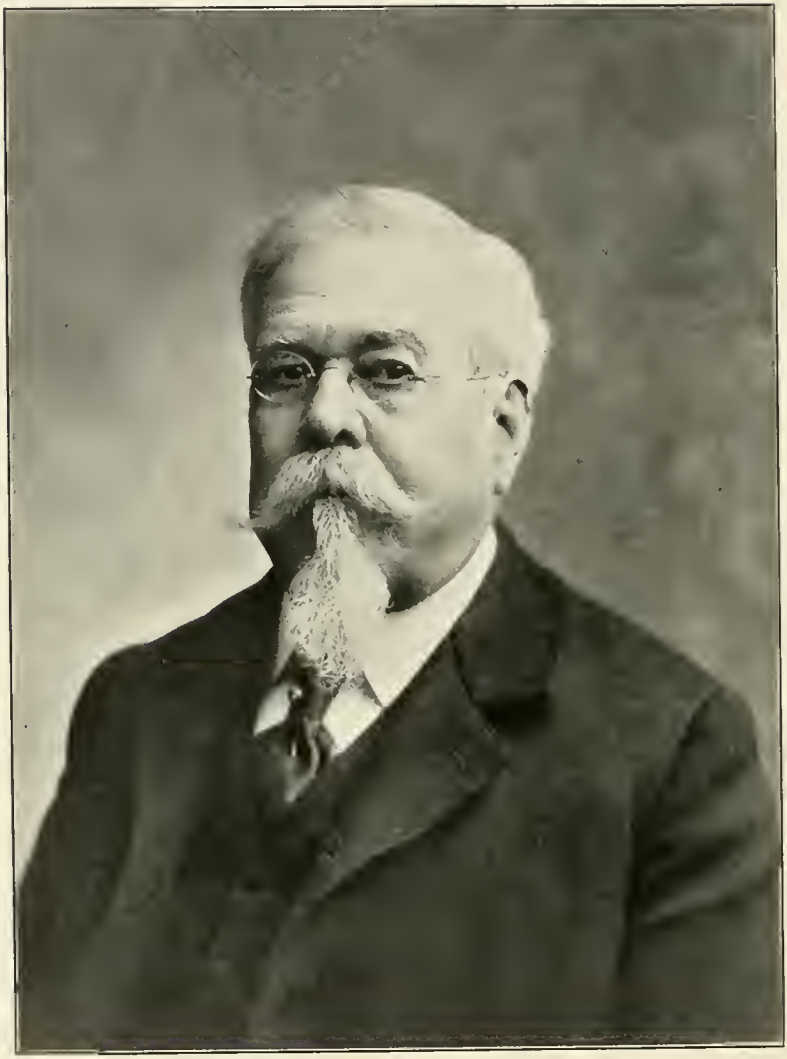


S. W. Woodhouse

CASSINIA

PROCEEDINGS OF THE DELAWARE VALLEY ORNITHOLOGICAL CLUB

No. VIII. PHILADELPHIA, PA. 1904.

Samuel Washington Woodhouse

BY WITMER STONE

The biographies which have appeared in the preceding numbers of CASSINIA have dealt with men whose lives had been completed long ere the present generation of ornithologists began their labors, indeed before many of them were born. But Dr. Woodhouse, although a contemporary of Townsend, Nuttall, Gambel and Cassin, outlived all of his associates and in the last years of his life became a member of our Club and of the American Ornithologists' Union, and in his conversation and reminiscences seemed to bring us almost in touch with men who are to us but names in ornithological history.

Samuel Washington Woodhouse was born on Walnut street above Eighth, Philadelphia, on June 27, 1821, the son of Commodore Samuel Woodhouse, U. S. N., and H. Matilda Roberts. His grandfather, William Woodhouse, son of John Woodhouse, of Alnwick, Northumberland, England, emigrated to Philadelphia in 1766 and entered upon a business career at 6 South Front street. Young Woodhouse was educated at several private classical schools in Philadelphia and at West Haven, Connecticut.

He early developed a great interest in natural history, especially ornithology, and frequented the Academy of Natural Sciences then occupying a small building at Twelfth and Sansom streets. Here he made the acquaintance of Thomas Nuttall, John K. Townsend, Dr. George Leib, Dr. Samuel G. Morton, Dr. Paul Goddard and other active members of the society and in 1840 assisted in the transference of the collections to the building at Broad and Sansom which was the home of the Academy for the next thirty-five years.

Deciding to become a farmer, Woodhouse went to live with John Worth, a well-known agriculturalist, of Chester county, Penna., and later with his brother occupied a farm purchased by their father in the Springtown Manor tract in the same county, situated on the Brandywine. Here the study of birds kept pace with the activities of the farm until, after suffering a severe attack of sickness, Woodhouse decided to enter upon the study of medicine. He matriculated at the University of Pennsylvania as a student of Dr. Robert A. Given, then resident physician of the State Penitentiary, and became himself apothecary of that institution. He graduated in 1847 and was appointed assistant resident physician at the Philadelphia hospital, remaining there over a year.

In the meanwhile Col. J. J. Abert, Chief of the U. S. Topographical Engineer Corps, applied to Dr. Morton of the Academy for a young doctor to accompany the Creek and Cherokee boundary survey as surgeon and naturalist. Dr. Woodhouse was recommended and was not slow to accept the position, it being evidently much more to his liking than the sedentary life of a hospital physician. He reported in Washington in April, 1849, and was soon en route for the frontier. The manuscript journals of this expedition, which I have had the pleasure of examining, are full of interest. His route lay down the Ohio and thence by way of the Mississippi and Arkansas to Fort Gibson in Indian Territory where the party, under the leadership of Lieut. Sitgreaves, took the field. In 1850 the work was continued under Lieut. Woodruff and on this survey the interesting daguerreotype accompaning this article was taken, showing the party encamped on the prairie, June, 1850.

TWO EARLY PORTRAITS OF DR. S. W. WOODHOUSE AND VIEW OF U. S. TOPOGRAPHICAL ENGINEERS' CAMP ON CREEK AND CHEROKEE BOUNDARY SURVEY, INDIAN TERRITORY, JUNE, 1850. WOODHOUSE STANDING AT THE HORSE'S HEAD.

FROM DAGUERREOTYPES.

Dr. Woodhouse stands by his pony in the middle, Capt. Andrew Potts the quartermaster in front of the tent, with the civil engineers, Isaac Smith and Joseph R. Smith, on his left and Mehew in the foreground, cooks, teamsters, etc. in the rear.

In 1851 Dr. Woodhouse again under Sitgreaves explored the Zuni river, traveling from San Antonio, Texas, via El Paso to Sante Fe and then west to the Zuni, which was followed to its junction with the Little Colorado, thence across the San Francisco Mountain and down the Colorado river to Yuma from which point they traversed southern California, reaching San Francisco in February, 1852.

Returning via Nicaragua, he proceeded to prepare his report upon the birds and mammals obtained on the several expeditions, preliminary descriptions being published in the Proceedings of the Academy and the full report appearing in Sitgreaves' Report of the Zuni River Expedition. Hollowell treated of the reptiles obtained by Woodhouse, Baird and Girard the fishes, and Torrey the plants.

The first expedition was through country inhabited largely by half-breeds and semi-civilized Indians, and presented comparatively few novelties in the way of birds and mammals. Dr. Woodhouse's journals, however, contain interesting notes on his first sight of such birds as the Swallow-tailed Kite, Carolina Parakeet, Ivory-billed Woodpecker and Fork-tailed Flycatcher, while his accounts of the abundance of Wild Turkeys and Deer, and the hunting of Buffalo testify to the splendid opportunities that were open to the hunter of fifty years ago.

The Zuni River Expedition was far more arduous, its route lying through the hot, arid deserts of the Southwest, then peopled with more or less hostile Indians. The party was several times attacked, and Dr. Woodhouse, while leaning over the camp-fire one morning, received an arrow in the leg, but, fortunately, no serious consequences ensued. At Zuni he was also bitten by a rattlesnake, which interfered considerably with his collecting, though it afforded opportunity for study of the effects of the poison and its response to treatment. Dangerous and inhospitable as this country was, it possessed unusual interest to Dr. Woodhouse, since to the ornithologist it was

largely *terra incognita*. Six new birds and an equal number of new mammals were described, the majority of which have stood the test of time, while numerous other forms first collected by Woodhouse have, in the light of additional knowledge, proved to be separable, and, as in the case of Woodhouse's Jay, have been named in his honor.*

In January, 1853, Dr. Woodhouse joined a private expedition to Central America, in company with E. G. Squire, Lt. W. N. Jeffers, and D. C. Hitchcock, and investigated the topography and mineral resources of portions of Nicaragua, Honduras and San Salvador, returning to the United States in December. His collections on this trip were not extensive, and no report upon them was published.

The year 1854 found him stationed at Ft. Delaware, then under construction, Major John Sanders of the Engineer Corps being in charge. In 1856 he resigned from the service, and in 1859 and 1860 was surgeon on Cope's line of packets plying between Philadelphia and Liverpool, and was likewise surgeon to the Washington Grays Regiment. During the Civil War Dr. Woodhouse was resident physician at the Eastern Penitentiary in Philadelphia, and afterwards retired to private life. He was married in 1872 to Sarah A. Peck, and is survived by two children, Dr. Samuel W. Woodhouse, Jr., and Matilda Roberts Woodhouse.

For years Dr. Woodhouse had completely lost touch with ornithologists, but upon visiting the Academy of Natural Sciences one day in 1898, he was introduced to the writer and became intensely interested in the recent improvements and enlargements in the ornithological department. He was elected an honorary member of the Delaware Valley Ornithological Club, and made the acquaintance of the younger ornithologists of his native city. He frequently attended the meetings of the Club, and followed its proceedings with deep interest, while he not infrequently spoke informally of the experiences of his

* Among the new species described by Dr. Woodhouse were the Gray-headed Junco, *J. caniceps*, the Black-capped Vireo, *V. atricapillus*, Cassin's Sparrow, *Peucæa cassini*, Abert's Squirrel, *Sciurus aberti*, Ord's Kangaroo Rat, *Perodipus ordii* and the Southern Coyote, *Canis frustror*.

early life. This association was enjoyed on both sides and the revival of the favorite study of his youth seemed to shed a brighter glow over the last years of his life. He attended the first meeting of the fall session on October 6th, in his accustomed health and vigor, and on the 23d of the same month was suddenly called to join those associates who had preceded him years before.

Dr. Woodhouse was present at the Congresses of the American Ornithologists' Union, which met in Philadelphia in 1899 and 1903, and made the acquaintance of many ornithologists from other parts of the country. At the latter meeting he was elected a Corresponding Fellow of the Union. He was also a life member of the Academy of Natural Sciences of Philadelphia—the oldest member with one exception—and corresponding member of other scientific organizations.

A Chimney Swift's Day

BY CORNELIUS WEYGANDT

It is more than four years now that I have lived in a little old house on the Wissahickon Hills that boasts one family of chimney birds in its main chimney each summer. Not until July 30, 1904, however, in our fifth summer in the house, did I devote a day uninterruptedly to observing the birds.

The Swifts are tardy building in our chimney, so at this late date in the summer, the young, about six weeks old, have been flying less than a week. Their being awing is proclaimed by their frequent misses of the chimney in attempting to enter and a clumsy entrance when at last they attain it. I am not consciously watching them all the time, but so noticeable a feature of Chimney Swallows' life as birds failing to make the chimney at first trial is sure to attract my attention. On days of high wind, of course, even the old birds have some trouble entering, and in great gales I have seen them miss time after time.

On July 30th, I got up at four o'clock to observe the comings and goings of the Swifts, but one old bird was either out before that or it escaped without my observing it in the half-dark. When it returned for the first time at 5:10, I was lying flat on the floor of our living room with my head in the open fire-place. It was light enough at this time for me to distinguish four Swifts clinging to the chimney wall just below the nest, which was exactly twenty-three feet above me as I lay on the floor, and four feet and two inches below the top of the chimney. I could not see the bird's position as it entered the first time; but by practice, watching both inside and outside, I finally grew able to see just how it entered and to distinguish between its and the other old bird's mode of dropping in and that of the young birds. The old birds would sometimes dive in head first, describing an arc of about ninety degrees, and

suddenly arresting themselves and reversing by using the tail as brake, just at the mouth of the chimney; thence they would drop to a point below the young, wings above body and body parallel to the earth, until they wished to arrest themselves, when the wings would beat violently, producing that drumming sound so distinctive of the bird's return to the chimney.

The rapidity of the beating of the wings obscured the changing of the position of the Swift's body from that of parallel to the earth to that of parallel to the chimney walls, but it seemed to me that as the birds arrested their flight they tipped down the lower parts of their bodies so that their feet could grasp the wall as they hovered close to it. They never lighted descending but always ascending, after the downward plunge had been arrested. They would continue to beat their wings after they had grasped the wall with their feet, and sometimes they would flutter up, keeping themselves off the wall by the feet, like a sailor coming up the side of a ship on a rope. At times, of course, they were assisted in mounting higher by feet as well as wings and sometimes they climbed by their feet alone. Both old and young used their tails to help support themselves, pressing the spines firmly against the chimney wall.

Other entrances to the chimney were accomplished this way.

The birds would come speeding home at a level, only a few feet above that of the chimney-top, suddenly stop themselves by expanding their tails, and, with wings held rigid above bodies and pointed slightly outward so as to buoy themselves in their descent, drop into the chimney mouth, to repeat the same tactics in landing on the wall of the chimney as when they dove in from a height of twenty feet or more.

The young birds had not yet learned to dive. They always came in this latter manner I have described, except that they fell from a point about ten feet from the chimney-top. Often they missed entirely and often when they were directly above the chimney mouth they lost courage and circled away to try again.

Our chimney bends southwestward about four feet from the top, but within fourteen inches regains the perpendicular. This bend results in an overhang of six inches on the northeast wall

and right under this the nest is placed, making it secure even in the heaviest rains. In my five summers' observation of this nest it has never come down during the summer. It remains until the heat and gas of the winter's fires below disintegrate it. This offset, while it makes the Swifts' nest very safe, adds to the birds' difficulties in reaching the nest. The chimney, which is but fourteen inches by thirteen inches in the clear at its mouth, widens a little below, but the six inches' swerve from the perpendicular leaves a space of only thirteen inches by eight inches for the bird to lower itself into as it enters. As far as I could observe the old bird entered always in the very center of the open space. I think that one old bird, probably the mother, did almost all the feeding the day I watched. I could distinguish between the parents by the fact that one old bird had several feathers gone from one wing. This bird, after they were all out in the morning, I did not note re-enter but thrice before noon, and after they had hung together in the chimney for a while at noon, it left and did not re-enter until dark.

When the mother bird—for such I took to be the bird that did the feeding of the young—entered the chimney at 5:10 she dropped to a point about six inches below the four birds that hung together, and making fast to the wall there, climbed up to them. One of the four, probably the old male, dropped below the others as soon as the mother reached them. Climbing until her head was just above the head of the young one clinging at the right, the mother turned her head so that I could see the grey of her throat, and, bending slightly, disgorged, this time succeeding in getting all the flies, small beetles and gnats safely into the squab's mouth, but on several of her trips, flies, etc., more or less maimed, fell down. Some were so little injured they flew away.

The feeding took this time, and on the average, thirty seconds. When the old bird had finished disgorging she dropped down the chimney a foot and rested a moment. Then she drummed up and out of the chimney. As she flew out her body was at an angle of about forty-five degrees with the ground and her wings beat so rapidly that they described a dark band

almost at right angles to the body. This was her usual appearance to me as I lay in the fire-place watching her lift herself out. She returned at 5:28 and fed the left-hand young one. I went out into the yard now and saw two Swifts circling about, "*tsip-tsip-tsip-tsee-tseeing*" at a great rate. I saw neither enter the chimney, but when I returned to the house at 5:58 there was a great cheetering in the chimney. This racket was kept up continually while I was getting a bite to eat. The noise I made resuming my post in the fire-place at 6:13 stopped the cheetering and scared out three of the four Swifts then in the chimney. My disturbance of the birds at this and other times during the day made their day not an entirely normal one, but any watching of birds that they are conscious of makes our records not entirely true to their habitual life.

At 6:20 an old bird returned and fed the one squab remaining in the chimney. After feeding its young the old bird did not immediately leave the chimney but fluttered from one wall to another, hovering often below the young one, as if trying to fan it up and out by the air from her swiftly-beating wings. Finally the old bird flew to a position just above the nest. All was to no purpose, for the young one did not follow it out when it left. The old bird then apparently tried starving the squab out, for she had not returned when the latter went out at 7:45.

No Swifts returned to the chimney until 10:30, though I saw two attempt to drop in at 9:40. One was apparently an old one, to judge from its "*tsip-tsip-tsip-tsee-tseeing.*" The old bird would come in low over the chimney and spread out its tail feathers in the manner referred to above, but the young one could not make the drop from so low a height above the chimney and when it did finally manage it at 10:30 after two more unsuccessful attempts at 10:05 and 10:20 it slowed down about ten feet above the chimney mouth and dropped in from there. Another young one entered at 10:40 under circumstances similar to the first's except that the mother went in with it. She went out again almost immediately and was in again in a minute by a dive (10:41). Out she came again at 10:43 and picked up the young bird that had accompanied her when she dived in at 10:41. It again attempted to drop in with her and again

failed, she going off with it when she knew it had missed. The two squabs already in came out now. I saw the four circling together at 10:45. A young one attempted to enter alone at 10:51, but its courage failed when it was just over the chimney mouth. Its mother picked it up again and the two entered at 10:56. Another entered at 10:58 and two more, one of these the bird with the thinly-feathered wing, at 11. The latter came out at 11:01 but returned again at 11:22. I ceased watching now for ten minutes and when I came back to my post (a seat in the back yard that commanded a view of the chimney fifty feet away) a Swift was entering. Another came out almost immediately. At 11:42 the two old birds entered, sweeping along until they were right over the chimney mouth at a height of but a few feet, when they spread their tails wide, the unfolded feathers showing brown against the sunlight, and thus staying their flight, dropped straight as leads into the chimney. The two remained inside. Another, evidently a young one, attempted to enter at 11:46 but failed, as it did twice more between 11:51 and 11:52. A young one was still circling about as I climbed up the roof at twelve o'clock sharp to look down the chimney at the birds. I could observe them easily, as the chimney extends but twenty inches above the crest of the roof. Four Swifts were hanging below the nest in a bunch, like bees on a comb. They remained quiet as I, scarcely six feet above them, looked down at them. They turned their heads to look up at me so that I could see how round were their bright eyes and how soft the grey of their throats. This grey, in the gloom of the chimney, contrasted very distinctly with the black-brown of their wings and the sooty-brown of the crowns of their heads. As I stopped lower to look at them more closely they began to mew in a voice I had never heard a Swift use before, a voice something like that of the Catbird's when it mews and something like that of the Night-hawk's when it twangs nasally, but a voice more subdued than that of either bird. Three of the Swifts fluttered away from their favorite hanging place under the nest, but none flew out of the chimney, and the one that had been circling around when I was on the roof dropped in a few minutes after I had slid down.

I went immediately to look at them from below, but there were but four in the chimney then. Another entered at 12:15, but, possibly disturbed by me as I changed position in the fireplace, two lifted themselves out at 12:27. One returned almost immediately and one came out at 12:28. There was no feeding on either of these last entries. An old bird returned and fed the right-hand young one at 12:38. It went out after the usual half-minute's stay and returned at 12:52, to leave again after feeding the left-hand young one. There was a great deal of cheetering every time a bird entered the chimney, but none when a bird left, unless it disturbed another on its way out. The young birds were constantly shifting their positions. Sometimes they fluttered a good deal and moved down or up the chimney; they did not shift right or left more than a half inch unless they changed the wall on which to hang, which was very seldom. The young birds generally hung two just below the nest, and one below these two, but sometimes all three hung close together, and sometimes the parent would remain for two minutes beside the young she had fed, but she very infrequently did this. Once when I climbed to the top of the chimney I saw one bird hanging directly on top of another, but whether the two were in copulation I cannot say. I had thought this was the situation, as I looked up from below, and I went to the top of the chimney to try to make sure. I was summoned to lunch as I saw the old bird enter again at 1:12. I heard a great cheetering at 1:30, and left the table to look up the chimney. There were but two young hanging there, one below the other, and the mother was feeding the lower one.

In a few minutes after I resumed my observations (at 2 o'clock), I saw an old bird enter, and she returned again at 2:20. Late in the afternoon there were but two birds in the chimney, but from 2 until 3:40 there were three. Two hung side by side, the mother feeding these oftener than the bird which usually hung just below. On one trip she visited all three, but whether she fed all three I could not tell. The lower bird seemed stronger than the other two, fluttering at times to other positions, and it may be that the mother failed to visit it every third time she came back from her sky-harvesting because

she thought it able to shift for itself, or it may be that it was not fed because it was not in what she considered its proper place on the northeast wall. I never saw her feed it unless it was on that wall below the other two. It was not in place on the mother's 2:31 trip, nor on her 2:55 trip. It was in place at 3:15 and was fed. It followed the mother out after her visit at 3:40. She returned at 3:54, then at 4:31, and then at 4:50. On this last visit she staid in for two minutes instead of for the usual thirty seconds. Her remaining visits before all were in for the night were at 5:18, 5:22, 5:43, 6:05, 6:40, 6:54 and 7:10. Just after seeing the mother enter this last time I went up to the roof and saw four Swifts hanging in such a bunch as I have described before; the old bird flew out as soon as I drew back from the chimney-top. At 7:29 I saw a bird return, but whether the mother or the father (the one with the thinly-feathered wing) it was too dark to make out. Another went in before 7:30. I again climbed up to look down the chimney, but it was now too dark for me to see the birds. Even a light held at the bottom of the chimney did not illuminate it enough for me to make out their number. I let a lantern down from the top but it so distressed them, driving them, as I gradually lowered it, further and further down the chimney, with great drumming and mewing, that I desisted.

Except on the rarest occasions the Swifts entered the chimney from one direction and left in another. They almost invariably tossed themselves out to the northwest, for in that direction were fewest trees. They did not habitually come in from this direction, for the reason, I suppose, that they would have to face about in dropping, so as to land on the northeast wall below the nest. If they came in from any other direction than from the southwest, though, it was from the northwest. About two hundred feet to the southwest of the chimney are trees very much higher than the chimney, very tall trees indeed, and in order to enter so they might face the northeast wall on which they customarily hung, they had to come through an opening in the trees dead south of the chimney and then turn sharply northeast within a hundred feet of the chimney. I never saw them dive down from over the great trees to the southwest. At times

I have seen the old birds dive in from the northwest, where is a field with but few trees in it. The young birds could not come in, until two weeks later, from any direction but the southwest. To land in their favorite place from this dive from the northwest the Swifts must not only reverse themselves as they always must do after diving, but must turn when in the chimney from facing southeast to facing northeast—quite a feat. To go out the northwest way they always began to turn from northeast—as they were facing in their starting place—to northwest, while beating up the chimney. By the time they reached the top they would face northwest and would have simply to toss themselves out, which they would do in a great swoop that would carry them to within ten feet of the ground before they began to mount upwards.

On July 31, the morning after my day of close observation of the Swifts, I observed them pretty carefully. The chimney was empty from 8:30 to 12. A bunch hung together for a while at noon. Two young birds spent most of the afternoon in the chimney. They preened themselves even more diligently than they did the previous day, and loose feathers were dropping every time I looked up the chimney. Those feathers, lodged in crannies of the brick and stone and plaster of the walls, caught the light like spiders' webs on dewy grass, and glinted silver among the shadows in the chimney. The old birds, too, lost some of their long wing feathers, and by August 7 there was quite a collection of small feathers and half a dozen long feathers in the fire-place. By August 14, the young birds could enter the chimney as well as their parents, diving fearlessly. After August 17 I never saw them enter the chimney by day or heard them drumming there, day or night, for our chimney never had been a "swallow roost."

I still see (September 20) and I will see yet for three weeks, if this season is like previous ones, Swifts sporting in the great trough of air between the long line of woods a hundred yards to the southeast of our house and the lines of tall trees along the lanes to our southwest and northwest. But in the chimney of our little house, that stands opposite a break in this northwest line, it will be next year's May before we have the chimney birds again.

That Feathered Midget of Our Tide-Water Swamps—The Long-Billed Marsh Wren

BY CHRESWELL J. HUNT

The Long-billed Marsh Wren (*Telmatodytes palustris*) is a common summer resident throughout the Delaware Valley wherever suitable swamps are to be found, but is rarely found above the reach of tide-water.

Mr. Thomas H. Jackson found them breeding in a swamp along the Brandywine Creek near Lenape, Chester County, Pennsylvania, in 1886; and Mr. Witmer Stone found them in considerable numbers along the Egg Harbor River above May's Landing, New Jersey, quite a distance above tide-water. These are the farthest records above tide-water that have come to my notice.

In some parts of New Jersey it appears to be a resident species, as Messrs. Stone and S. N. Rhoads found small numbers of them in the giant cattail swamps at Cape May in January, and Mr. Charles H. Rogers, of New York City, records Marsh Wrens at Moresmere, Bergen County, N. J., as late as November twenty-first. ["Bird-Lore," Vol. VI, No. 3, page 98.]

My own studies of the bird have been made along the tide-water creeks which empty into the Delaware River near Philadelphia. These creeks have high and wooded banks on one side, while on the other side for the most part lie low stretches of alder swamps, covered during the summer with a rank growth of spatter-dock, calamus, wild rice, and pickerel-weed, with here and there a clump of rose-mallow or a gorgeous cardinal flower. It is here that countless numbers of these little birds find a congenial summer home.

They arrive about the tenth of May, and although they begin nest-building early, it is not until the first and second weeks

of June that the chocolate-colored eggs are laid and domestic duties taken up in earnest. Even then these birds seem to take it more as play than work. Could they be serious about anything?

Wilson, speaking of the Marsh Wrens of Pennsylvania, says: "The young leave the nest about the twentieth of June." From my own observations this would seem to be an exceptionally early date. I examined a great many nests along the Pensauken Creek, N. J., on May thirtieth. None of them contained eggs, and few were as yet completed. In a swamp at Bristol, Penna., on June nineteenth, Mr. Keim and I found several nests. Two of them contained four and five eggs, respectively. Examination proved these eggs to be well incubated, but they certainly would not have hatched for several days.

Along the Pensauken Creek each patch of calamus has its pair of Wrens, and each pair build, on an average four nests. In this locality the globular nests are generally built among the calamus stalks or in the crotch of an alder or elder bush. A visit to these swamps, on May 30, 1904, showed each pair of birds to have three nests almost completed, while the foundations for a fourth were in most cases already started. They seem to work on all of them at once. I watched a Wren with a piece of building material in his bill. First he carried it to one nest and started to stick it into that, then he flew away with it to another nest and finally he inserted it into the walls of the third, every little while stopping to sing a snatch of his merry song.

When among these swamps one is never beyond hearing of the Wren's song. They seem to be fairly overflowing with music—a bubbling, gushing song that seems rather to have had its birth above some rushing mountain stream than above these sluggish waters. All day long they sing their cheery warble, clinging to the stalk of some swamp plant with their little tails cocked up over their backs in the most exaggerated Wren fashion, or else mounting into the air with a burst of song and then darting back again among the sheltering growth. Nor does the coming of darkness silence them.

At all hours of the night the Marsh Wren's notes may be heard ringing across the marsh. Drifting with the tide, in an open boat, among these swamps I have heard this night song at its best. There is a pleasant surprise in store for the bird-lover who has missed it.

This night song is no doubt the same as that sung in the daylight but the night gives to it a certain charm. One must hear it mingled with the quivering call of a Screech Owl and the "quawk, quawk" of Night Herons to fully appreciate it.

It matters not whether the moon be bright or the sky be cloudy: these midnight concerts are held regularly through May, June, July and the first half of August. One wonders if these little birds ever sleep. They are such restless little bodies that one would think that with the coming of night they would be glad to rest, but instead they seem to be always on the move. When you invade their haunts they will watch you from some nearby plant stalk, pitching their tails forward until they lie almost flat upon their backs, scold at you a little and then burst into song. It seems impossible for them to be quiet for five minutes at a time.

Wilson seemed to think that because of the Marsh Wren's restless movements it should be classed with the creepers. He says: "From the above description and view of the figure, the naturalist will perceive that this species is truly a *Certhia* or creeper, and indeed its habits confirm this, as it is continually climbing along the stalks of reeds and other aquatic plants in search of insects."

By the twentieth of October these little birds have forsaken their summer haunts and the swamps have lost to me one of their chief attractions.

The Short-billed Marsh Wren (Cistothorus stellaris) in Eastern Pennsylvania and New Jersey

BY LA RUE K. HOLMES

It is my purpose in the present paper to give a summary of the most important published records, with which I am familiar, that have any bearing on the status of the Short-billed Marsh Wren (*Cistothorus stellaris*) in Eastern Pennsylvania and New Jersey, together with a few unrecorded observations made in northern New Jersey by friends of the author.

With the exception of Audubon the earlier writers on Ornithology seem to have been entirely ignorant of the existence of this species. Why, I cannot tell, unless they confused it with its near relative, the Long-billed Marsh Wren (*Telmatodytes palustris*). It is, however, very likely that they never happened to hunt in marshes inhabited by it. Audubon, though familiar with it, appears never to have found it in either State concerned, as he records in his "Birds of America," as follows: "While in New Jersey, in the summer of 1832, after I had become acquainted with this species through Nuttall, I spent several days in searching the fresh-water marshes, often waist-deep in mud, in the hopes of procuring it; but my efforts, as well as those of my friend, Edw. Harris, Esq., and my sons, were unsuccessful."

It is to be presumed that these days were spent in the marshes of central and southern Jersey, probably at no great distance from Philadelphia, and as this bird is rare in that section to-day it is not difficult to understand why he did not find it in the few days that he searched for it. In direct contrast to the experiences of Audubon are those of Dr. C. C. Abbott, who, in his list of birds of New Jersey [1868], records the following remarkable observations: "More abundant than the preceding (*C. palustris*), and frequents the same localities, builds a large, globular nest of grass, supported by firm bulrush stalks, raises

two broods in a season, laying frequently 10 eggs. This and the above feed exclusively upon insects, and are very active in the pursuit of them. Arriving in May, they settle down immediately in the meadows, and do not leave them till a hard, white frost has come." The following is what he has to say with regard to *T. palustris:* "Not abundant. Arrives in May, and is found only in the meadow lands, generally in the marshy, wet tracts that are undisturbed throughout the year. Breeds in June, and raises two broods generally. Are most frequently met with in September, when they may be seen flitting about the reeds, apparently careless of the shooting so incessant about them at this time."

In 1869, W. P. Turnbull in his list, "The Birds of East Pennsylvania and New Jersey," gives the Short-billed Wren as "rather rare from April to September."

Where Dr. Abbott found *stellaris* more common than *palustris* he does not state, but it is likely that his observations were made along the Delaware and in the river marshes of south Jersey.

That Abbott should have found them so common in 1868, while Turnbull classed them as rather rare in 1869, shows that there must be an error, and in view of the status of this species to-day in the region probably covered by these records, I feel that Dr. Abbott is mistaken in his record.*

Mr. Stone in his "Birds of Eastern Pennsylvania and New Jersey," gives *C. stellaris* as a "Rare migrant, and in southern New Jersey occasional (regular?) winter resident;" also a breeding record by Dr. Detwiller which I will note later on. He further says, "we know of no other records of its breeding in eastern Pa. or New Jersey."

Mr. Stone tells me that his supposition that it is a regular winter resident in southern New Jersey is based on the capture

* This view is strengthened by Dr. Abbott's subsequent statement in his 1885 list of birds of Mercer Co., N. J., in "A Naturalist's Rambles About Home." He there quotes Turnbull on *stellaris*, but adds, "I believe that more of these birds are to be found than is commonly supposed. I have found colonies of them in certain limited tracts of reedy meadows." Of *palustris*, he rightly says, "abundant in all marshy or tide-water meadows."

of two specimens at Cape May, N. J., one on January 28, 1892, by himself, and the other on January 29, 1892, by Mr. S. N. Rhoads. With regard to these specimens Mr. Stone writes: "The two Cape May specimens were secured by Mr. Rhoads and myself from the grass in open boggy ground, 100 yards back from the sandhills. The bird flushed, took short flights and dropped back again like the Savanna and Swamp Sparrow which occurred abundantly on the same ground." It is not improbable that a few individuals occasionally, if not regularly, winter in the southern counties of New Jersey. That they have not been found more often is undoubtedly due to the fact that but little field work is done in the winter, and that the birds in question are so small and secretive that they might be easily overlooked even when quite common.

In Chas. A. Shriner's "Birds of New Jersey," published in 1897, I find the following: "The breeding location is similar to that of the Long-billed Marsh Wren, but the birds are scarce in New Jersey; a few winter in the southern part of the state; they may breed occasionally, but they mostly occur during migration." As he does not give his authority for his winter record, I think it likely that he has based his statement on Mr. Stone's record.*

I have been unable to find but one or two breeding records, and several of these are open to doubt.

The following is taken from a letter of Dr. Detwiller sent to Mr. Stone in reply to his query on this species:

"In 1884, Mr. John Mack, of Bethlehem (Pa.), brought me a nest of this bird which he found below Quakertown while hunting Woodcock. The nest was a new structure, but contained neither young nor eggs; he saw the birds. July, 1886, I found a nest with eggs on Chain Dam Island, Lehigh River.

[Signed] JOHN W. DETWILLER.

March 22, 1893.

As far as the finding of an empty nest is concerned, it could hardly be identified with certainty even though the bird was seen. I have found nests of *palustris* that were indistinguishable

* This supposition is correct. W. S.

from those of *stellaris*. In one case a male *stellaris* was singing in the grass within ten feet of a nest containing five chocolate eggs; he was the only bird seen in the neighborhood, and, after hunting for several hours, I could find no other nest, yet I should not consider myself justified in stating that the chocolate eggs belonged to *stellaris*.

Dr. Detwiller has made one or two statements that are open to question, as may be seen in a recent "Auk," and his record is therefore doubtful, especially when the fact is taken into consideration that dozens of ornithologists have worked and worked over again the whole of eastern Pennsylvania without finding a nest, or at least not recording it if found. However, the bird is of extremely local distribution, and it is possible that Dr. Detwiller's record is correct.

Another record, although not from the territory covered by this paper, is of interest. It was furnished by Mr. Stone and is as follows in his own words: "Mr. C. J. Pennock found a nest in a marsh along the Delaware River near Wilmington, Del., that he regards as this species, on the ground of white eggs. I, as I told him, am skeptical (perhaps too much so), because I do not believe the species associates with the Long-billed Wren in tide-water marshes, and as you know the latter sometimes lays albino eggs. . . . The notes in Chapman's "Handbook" confirm my suspicions above, *i. e.*, that the bird does not breed this far south or in the river marshes."

From the little that I have been able to gather on the subject I would say that I think the nest found by Mr. Pennock was that of *stellaris*, for as far as I can learn they do, even though it may be rarely, breed in tide-water marshes, and in company with *T. palustris*. Audubon says, "Dr. Trudeau informs me that he found its (*stellaris*) nest in the Delaware marshes, and saw both male and female near it, but could not procure them, being at the time without a gun; the eggs were four." *

These marshes were probably tidal, although they may have been farther north. At any rate, they were river marshes.

Then in Dallas Lore Sharp's delightful "Roof and Meadow,"

* Birds of America.

I find a reference to this species which, though somewhat long, describes so well the conditions under which this bird must be sought, that I quote it at length, with the author's permission: "It was a late June day whose breaking found me upon the edge of the great salt marshes which lie behind East Point Light, as the Delaware Bay lies in front of it, and which runs in a wide, half-land, half-bay border down the cape. I followed along the black, sandy road which goes to the Light until close to old Zane's Place, the last farmhouse of the uplands, when I turned off into the marsh toward the river. The mosquitoes rose from the damp grass at every step, swarming up around me in a cloud, and streaming off behind like a comet's tail, which hummed instead of glowed. I was the only male among them. It was a cloud of females, the nymphs of the salt marsh; and all through that day the singing, stinging, smothering swarm danced about me, rested upon me, covered me whenever I paused, so that my black leggings turned instantly to a mosquito brown, and all my dress seemed dyed alike.

"Only I did not pause—not often, not long. . . . I had waded out into the meadow perhaps two hundred yards, leaving a dark, bruised trail in the grass, when I came upon the nest of the Long-billed Marsh Wren. It was a bulky house, and so overburdened its frail sedge supports that it lay almost upon the ground with its little round doorway wide open to the sun and rain. They must have been a young couple who built it, and quite inexperienced. I wonder they had not abandoned it; for a crack of light into a Wren's nest would certainly addle the eggs.

"They are such tiny, dusky, tucked-away things, and their cradle is so deep and dark and hidden. There were no fatalities, I am sure, following my efforts to prop the leaning structure, though the Wrens were just sure that it was all a fatality—utterly misjudging my motives. As a rule, I have never been able to help much in such extremities. Either I arrived too late, or else I blundered. I thought, for a moment, that it was the nest of the Long-billed's cousin, the Short-billed Marsh Wren, that I had found, which would have been a gem indeed,

with pearly eggs instead of chocolate ones. Though I was out for the mere joy of being out, I had really come with a hope of discovering this mousy mite of a Wren, and of watching her ways. It was like hoping to watch the ways of the "wunk." Several times I have been near these little Wrens; but what chance has a pair of human eyes with a sulking four inches of brownish streaks and bars in the middle of a marsh! Such birds are the everlasting despair of the naturalist, the salt of his earth. The belief that a pair of them dwelt somewhere in this green expanse, that I might at any step come upon them, made me often forget the mosquitoes.

"When I reached the ridge of rose and mallow bushes, two Wrens began muttering in the grass with different notes and tones from those of the Long-billed. I advanced cautiously. Soon one flashed out and whipped back among the thick stems again, exposing himself just long enough to show me *stellaris*, the little Short-billed Wren I was hunting. I tried to stand still for a second glimpse and a clue to the nest; but the mosquitoes! Things have come to a bad pass with the bird hunter, whose only gun is an opera-glass, when he cannot stand stock still for an hour. His success depends upon his ability to take root. He needs light feet, a divining mind, and many other things, but most of all he needs patience. There are few mortals, however, with mosquito-proof patience—one that would stand the test here. Remembering a meadow in New England where *stellaris* nested, I concluded to wait till chance took me thither, and passed on."

Upon corresponding with Mr. Sharp, I find that he can give me no further notes, but he says that he is absolutely sure that it was *stellaris* he saw on that "late June day."

The occurrence of a pair of birds as late as this in south Jersey would certainly indicate that they were breeding. East Point is many miles south of Wilmington, Delaware, and is nearer the Ocean, the marshes would naturally be much saltier than above. *Stellaris* and *palustris* were nesting (?) in the same marsh; these points with Audubon's record tend to show that *stellaris* may breed regularly to southern New Jersey; but as Mr. Sharp says, the mosquitoes are so abundant that hunting is

almost impossible, and in this way they may have been overlooked. At any rate, Mr. Pennock's record should be accepted until it is proven he is wrong.

My own knowledge of this bird is limited to its occurrence within a radius of fifteen miles of Summit, N. J., having found it breeding in the marshes left by the receding waters of the prehistoric Lake Passaic, which formerly covered a large portion of Morris, Union, Essex and Passaic counties. These marshes are fresh and their united waters form the source of the Passaic river. They differ greatly in character and size. The Great Swamp is the largest one within a day's walk of Summit and covers many square miles; it varies from meadow to the wettest kind of a wet swamp, from brush to virgin forests with trees a hundred or more feet in height. These latter, however, are rapidly being cut, and it will be but a few years before they will have entirely disappeared. The Lee, Troy, Whippany, Black and Chatham meadows are similar but on a smaller scale.

Stellaris has been found at the Miersville end of the Great Swamp by Mr. W. D. W. Miller, of Plainfield, but he has been unable to locate its nest. Messrs. H. H. Hann, H. Merriam, J. P. Callender and the writer, all of Summit, have found the bird breeding in several localities in the Great Swamp, principally near Miersville, Green Village and the Red Brick Schoolhouse.

At Miersville they build in damp meadows near heavy timber; at Green Village in similar locations, while near the Schoolhouse they breed, over water varying in depth from six to twenty inches, in company with *palustris*, which also breeds in the other two localities, but not in the same part of the marsh as *stellaris*, and always (?) over water.

In the Lee meadows near Malpardis, Mr. J. P. Callender and myself have found *stellaris* breeding over two feet of water; no *palustris* were seen or heard, but I have been told that they breed there also.

On the banks of the Passaic, near Chatham, *stellaris* breeds on one side of the river and *palustris* on the opposite bank; the shores are identical in appearance, but, I have been told, that

the two species do not encroach upon each other's territory, and my observations bear out this statement.

Mr. C. C. Henry, of Summit, has found *stellaris* breeding at Afton, N. J., in the Black meadows, in company with *palustris*, the ratio being about one to fifty, which means that you might find two or three nests of *stellaris* in a season. He also tells me of a nest of *stellaris* that contained seventeen eggs, all well incubated; only one pair of birds was seen near the nest, but I feel sure that two or more females were responsible for the abnormal set. Seven eggs is the largest number found in any nest of which I have any record, with the exception of the above.

I have never been able to find any infallible rule for distinguishing the nests of this species from those of *palustris*. My own experience has been that *stellaris* used finer grass in construction, but Mr. Henry tells me that in the nests he has found the grass used was as coarse if not coarser than that used by *palustris*. *Stellaris* invariably (?) builds in grass tules; I have never found one built in any other location, and have no differing record. *Palustris*, however, builds in almost any situation that happens to suit his notion, most often in dense patches of calamus, cat-tails or wild rice. I have found them in dense rose bushes which were growing in masses of cat-tails and in grass tules, but not often.

Some writers tell of having found the nests plastered with mud; I have never found, nor have I ever heard of one so constructed, having been found in this locality.

The earliest date that I have for eggs, is May 23, 1903, when I found at Miersville a nest containing one egg, and another nest upon which the birds were working. The next day, May 24, in the Lee Meadows I found five nests, in various stages of completion, and watched the birds building them for some time; many "dummy" nests were in the same meadow and had evidently been rejected before starting on the permanent site.

On May 30, 1903, Mr. J. P. Callender found a nest in the Great Swamp, containing two fresh eggs.

These dates are unusually early, June 9 being the usual time for finding one or two eggs in a nest, in this section.

Two broods are reared each year, one in June and the other in the last of July and the first of August. Many false, or dummy nests are constructed for the first brood, they vary from a complete nest, without the lining, to a few grasses in a tule twisted together: but in July they build only (?) one nest, the one they use. This statement is borne out by observations made by Mr. Dickerson covering many years. He owns a meadow which he cuts about twice a year, the first time about the first of July, when he finds many dummy nests and few completed ones; the second mowing is done about the last of August, when he finds only completed nests which bear evidence of having been used. I have been told by Messrs. Callender, Dickerson and Merriam, that a nest once touched would be destroyed by its owners, even though it contained eggs. Mr. Merriam based his statement upon a nest found in the Great Swamp, which contained an incomplete set of eggs, he returned to the nest several days later and to his astonishment he found the nest torn to pieces. Mr. Dickerson tells of having seen a pair of infuriated birds tear a nest to pieces that he had just examined, both birds took part in the dismantling of their home.

It has been recorded that the nests were always so well constructed that no amount of rain could penetrate them. I have reason to believe otherwise, for I have found the nests of both species, from which the young had flown, so wet that when squeezed, the water ran from them as from a sponge; this, however, was after an unusually hard rain, covering a period of three days.

In the foregoing pages I have endeavored to give a summary of our knowledge concerning this bird in New Jersey and Eastern Pennsylvania, and if any of my readers can add any information I shall be pleased to hear from them, that I may complete my notes on this species at a future date. Records that are especially desirable, are winter occurences, definite breeding records from southern New Jersey and any record from Pennsylvania.

The Barn Owl (Strix pratincola) in Chester County, Pennsylvania

BY THOMAS H. JACKSON

With the disappearance of some species of birds, and the growing scarcity of others, it is always a pleasure to know that some of our birds are at least holding their own, or even showing a marked increase in numbers in certain districts.

Although always more or less abundant along the Delaware River and its adjacent low-lying meadow lands, where the supply of its favorite food is practically inexhaustible, the Barn Owl has always been considered a *rara avis* in Chester county until within a comparatively recent period. Since 1870, the writer has paid considerable attention to our local birds, and it is only within recent years that the Barn Owl has seemed to occupy a place amongst our regular summer residents.

Within the last ten years a constantly increasing number of these birds have been brought in to our local taxidermists, and these have nearly all been young birds. The late Henry Garrett received quite a number of them, and nearly all came from Willistown township.

All efforts to trace these birds to a nesting place failed, until the spring of 1902, when, after hearing the description of a curious "White Owl" that had been found in a nest the year before, I located a female Barn Owl sitting on six eggs. This was on the 15th of May, and one egg was already "pipped." The nest was in a large, isolated maple tree that stood on the edge of Ridley creek in East Goshen township. The cavity was a very roomy one and was about twenty feet from the ground. Sometime during incubation the male bird was probably killed, as he was found dead near the nest. Possibly this accounted in part for the fact that only two birds out of the six eggs that were hatched reached maturity.

YOUNG BARN OWLS.

THREE WEEKS AND FOUR MONTHS OLD.

PHOTOGRAPHS FROM LIFE BY THOMAS H. JACKSON.

About the same date I visited a large, partly dead chestnut tree in East Whiteland township, where I learned a pair of Barn Owls had nested for a number of years, the secret being very closely guarded, and a portion of the brood being taken each season and sold or mounted. This particular year they did not nest there, the cavity being occupied by a pair of Sparrow Hawks.

This tree was an immense chestnut that stood in the middle of a large field. It had decayed and the center had been burned out until it remained a mere shell, while a large, hollow limb made an ideal home for the Owls.

During the summer of 1903, a brood of six Barn Owls was raised in East Bradford township. This nest was also in a large, isolated chestnut tree on a hill. The young birds were said to be quite tame, and someone fancying that Owls were only made to be shot at, killed the whole brood.

Early in May of the present year, another nest with six eggs was found in Westtown township, one mile south of West Chester. This nest was also in a large chestnut tree, standing alone in a field. A pair of Sparrow Hawks shared possession of the tree with the Owls.

All of the young were raised, two of them were in my possession for about three months and they made very interesting pets, though they never became at all tame, or allowed themselves to be handled without biting or striking with their claws. During the day they huddled together in the darkest corner of the cage, with eyes nearly closed and in a crouching position, and when disturbed would shake their heads in a most doleful manner. The only noise they made was a shrill cry that sounded like scraping ice with a knife. Rats and mice were their favorite food, though fresh meat of any kind was acceptable.

Early in December, 1904, a young Barn Owl was found dead under a large poplar tree in Willistown township. It was still partly covered with down and could not have been over eight weeks old, so that it must have been hatched about the first of October. This would seem in a measure to confirm some of the accounts we have had of the irregular nesting habits of these birds. The nest from which this bird had fallen was in a hollow limb near the top of the tree.

It seems very likely that the Barn Owl nests in this vicinity much more abundantly than has been supposed. The habit they have of hiding so thoroughly during the daytime and coming out only after dark, accounts for their being so rarely seen, and those that are captured are generally young birds, that have become lost or have not yet found secure places of concealment.

If the law against killing these birds would only be respected, it would seem that they ought to become in a short time one of our most abundant Owls. Always locating their homes in the midst of meadows or open fields, where mice are abundant and convenient, they wage incessant warfare against these pests.

Summer Birds of Pocono Lake, Monroe County, Pennsylvania

BY JOHN D. CARTER

In the northeastern part of Pennsylvania, between the sharply-cut valleys of the Lackawanna, Lackawaxen, Delaware and Lehigh rivers, lies an elevated, thinly-settled tract called the Pocono plateau. To a traveler approaching from the Delaware valley at Stroudsburg, its southeastern edge has the appearance of a massive mountain wall, more or less irregular, yet preserving the usual Alleghanian trend, up this wall, by devious courses, climb the Lackawanna and Wilkes-Barre and Eastern Railroads.

At Mount Pocono, on the former railroad, a beautiful and impressive view is afforded, across the wide, rugged valley, northwest of Stroudsburg, to the long ridge of the Kittatinny mountain, sharply broken by the Delaware Water Gap. At the next station, Pocono Summit, all the distant view is left behind. On all sides extends a gently, undulating country, covered for the most part with a low, scrubby growth of bushes and small trees. Above this humble vegetation protrude numerous pine trees of small or medium size, while an occasional great trunk, desolate in its nakedness, lifts its few remaining arms as if in protest against the destruction which has been wrought by fire and the axe.

This region, which to many travelers doubtless appears dull and forsaken, is broken occasionally by patches of cleared land, cared for by small farmers. Through wide, shallow depressions flow the streams of the region, some toward the Delaware or its tributaries, others toward the Lehigh.

A few miles from Pocono Summit, one of the streams of the Lehigh division, called the Tobyhanna, suddenly enters a valley so narrow and sharply cut as almost to deserve the name of a gorge. At this point a dam-breast has been made, backing up

the water for about three miles. This quiet water is Pocono lake. Although made for strictly utilitarian ends—the production of ice—the lake is not without beauty of its own type, and interest to the bird-lover. Since the lake is of rather recent date, the trees along its edges killed by the rise of the water are in many places still standing. A canoe may often be worked in among them for some distance. Many of those which once stood nearest to the stream have been cut off near the present water level. The resulting logs have drifted into rafts which skirt the shores in many places.

The woodland surrounding the lake is strikingly different from the scrubby region before mentioned. The trees mostly deciduous, have attained a good growth. Occasional groups of white pines, hemlocks, spruces and balsams serve to diversify the scenery and provide accommodations for certain kinds of birds.

Speaking broadly, the birds of the region near Pocono lake may be divided into three or more classes according to the nature of the districts which they inhabit. In such a classification it must not be supposed that most of the species confine themselves *entirely* to those places of which they are characteristic. Comparatively little of my stay of two weeks, following the 16th of 7th month, was spent in the scrubby region. My list for this locality is therefore confessedly incomplete.

Combining those species found in the cultivated spots, with those frequenting the scrubby growth, the birds observed by me are as follows:

Turtle Dove,
Flicker,
Night Hawk,
Chimney Swift,
Hummingbird,
Kingbird,
Phoebe,
Meadow Lark,
Red-winged Blackbird,
Purple Grackle,
Baltimore Oriole,
Song Sparrow,
Chipping Sparrow,
Field Sparrow,
Indigobird,
Cedarbird,
Barn Swallow,
Cliff Swallow,
Maryland Yellow-throat,
Brown Thrasher,
Catbird,
House Wren,

Goldfinch,
Towhee,
Vesper Sparrow,
Robin,
Bluebird.

Although the Chestnut-sided Warbler breeds abundantly in this locality, I did not succeed in finding it.

Most of the above may be dismissed with mere mention. The Cliff Swallows seemed to have a permanent place of abode under the eaves of a barn, and the people of the farm were of the opinion that the Swallows came regularly. On account of the sparseness of human habitations, there are not enough chimneys to accommodate the normal population of Chimney Swifts. These adaptable birds have therefore taken advantage of a peculiarity in barn construction which may frequently be noticed on the Pocono plateau. In the end of the barn, a little below the peak of the roof, a small window of artistic shape is cut in the weather-boarding. Since this window is regularly unglazed, the Swifts find ready access to the interior of the barn by day or by night. Inside they fasten their twig and saliva nests directly to the sides of the boards. This practice affords an uncommonly good opportunity for the study of the nestlings of this bird, usually safely ensconced in dark chimneys.

Rather more characteristic of the taller forest near the lake, though not confined to it, were the following :

Woodcock,
Ruffed Grouse,
Red-shouldered Hawk,
Hairy Woodpecker,
Downy Woodpecker,
Yellow-breasted Sapsucker,
Black-billed Cuckoo,
Whip-poor-will,
Crow,
Blue Jay,
American Crossbill,
Purple Finch,
Junco,
Rose-breasted Grosbeak,
Scarlet Tanager,
Red-eyed Vireo,
Ovenbird,
Redstart,
Magnolia Warbler,
Black-throated Green Warbler,
Blackburnian Warbler,
Black-capped Chickadee,
Hermit Thrush,
Wood Thrush.

Of the Warblers mentioned, the Magnolia seemed as numerous as all the others taken together. Its song was one of the most constant features of certain portions of the woods.

The vegetation and some of the birds to be mentioned later, hinted that this locality might prove to be one where birds usually more northern in their preferences, could find a congenial summer home. It was, therefore, with peculiar satisfaction that the Yellow-bellied Woodpecker was discovered. Only one individual was seen, probably a young bird. Whether or not it was an early migrant could not be determined.

It is always gratifying to solve a puzzle of long standing in one's ornithological experience. Years ago I noticed in the mountains of New York State, a bird which always seemed to be a long way off, flying through the sky in an undulating course, uttering a recognizable chirping note. I was then unable even so much as to propose a guess as to its identity, and much puzzled was I to think of there being such a bird so close to my home. I had not been long at Pocono Lake before this bird appeared again, like the wind of the winter night in the song, "Far in the Sky." For some days a special watch was kept for it. At last a small flock of the unknowns was discovered in a pine tree. They tarried but a moment, yet that was sufficient to reveal to a cousin of mine, who had seen them in the pine woods of New Jersey, what they were—Crossbills.

Any one must have been indeed insensible to bird music, not to have appreciated the Hermit Thrushes of Pocono Lake. In the mornings especially, the chorus echoing from every side, was one to be cherished in memory, in that department devoted to one's most delightful recollections.

The lake was doubtless responsible for the presence of some of the most interesting birds of the region. Close to the Tobyhanna or the lake, the following species were observed:

Spotted Sandpiper,
Green Heron,
Great Blue Heron,
Night Heron,
Bald Eagle,
Osprey,
Kingfisher,
Wood Pewee,
Great-crested Flycatcher,
Swamp Sparrow,
White-throated Sparrow,
Tree Swallow,
Veery.

Close to the lake, but apparently in no way affected by it, a Nashville Warbler seemed to have a permanent home. Its

song, as is quoted by Chapman in his description, seemed composed, half of the Black and White Warbler's, and half of the Chipping Sparrow's.

On the eastern side of the lake a hill slopes gently to the water's edge. This hill-side had been burned over within a year or two, huckleberry bushes, young birches and epilobium were the characteristic plants. This was the chosen home of the White-throated Sparrows, and they were in abundance. Along the edge of this tract, where the bushes grew in the shallow water, my cousin and I detected a call note (apparently) which at once struck us as being wholly new. A little search showed the note to come from a small Flycatcher, in non-committal brown and white plumage. The characteristics of his race were well-marked, even down to the fluttering and twittering combination gone through on returning to a perch after a fly-catching sally. Having neither gun nor disposition to use one had it been available, there remains something to be desired as to the identification of this bird, yet by subtracting from the total list of Flycatchers, those which it certainly was not, there remains but one, namely, the Alder Flycatcher. On one occasion I heard perhaps three or four of the birds calling at the same time from different sides of the lake.

Yet more conspicuous than any of the foregoing, were the Great Blue Herons. How different they were from those which I had seen in the lower country of Pennsylvania and New Jersey! There they had always been almost as voiceless as the Sharp-shinned Hawk, and as shy and wary as a bird well could be. But at Pocono Lake, the hunted criminal frame of mind seemed wholly abandoned. They had voices, good, strong ones, too, and were not afraid to use them. Their most usual call was a sudden squawk, longer than the Night Heron's quack, and as my cousin put it, more filled with the sound of *x;* and for tameness, they were models, indeed. In the morning and evening twilight they would allow a canoe to approach almost, as it seemed, within reach of the paddle. Perhaps twenty or thirty feet would be a fair estimate of my nearest interview. It appeared that a brood of young had been raised nearby, and that

our friends, members of the rising generation, had not learned what an unreasonable and avaricious creature man is.

Near the foot of the lake, a cold, clear little stream comes down through the forest. Spruces, pines, and hemlocks, are mixed with deciduous trees of various kinds. The ground is in many places very wet, and clothed with sphagnum. Rhododendrons grow luxuriantly, while such plants as the snowberry suggest the northerly character of the place. In a recently-burned tract on the edge of this wet woodland, the Parula Warbler was found, while within it, the Black and White, Black-throated Blue, and Canada Warblers were numerous. Less conspicuous were the Winter Wren, Golden-crowned Kinglet, Solitary Vireo and Red-breasted Nuthatch. Interesting as it was to find these birds spending the summer in this part of Pennsylvania, further search showed still better things. Resounding through the woods came the notes "quip, quip, quip, quip," occasionally running into a long-drawn, whistling "quip, que-e-e-e." These notes were readily traceable to a medium-sized, stoutly-built Flycatcher, the Olive-sided. To make the acquaintance of this bird, long-looked-for but never before found by me, was an event worthy of red-letter record.

Not so easy to trace was another note. I had heard it before in southeastern Pennsylvania during spring migrations, but had never been able to fully make it out. The song began with two notes, low in pitch, and possessing that peculiar ringing quality of the Veery's song, which seems to suggest to every one something spiral or whirling. These were followed by a succession of notes, some soft and sweet, others more closely resembling high-pitched squeaks. The conclusion of the song was not strikingly peculiar. At first I thought the song rather weak, but after following the sound for some hundred yards, only to discover the bird upon a tree-top, still a long way off, I concluded that it possessed good penetration, if not power. The bird which made it was a small Thrush. Unless the bird lies in one's hand, ears are better than eyes in distinguishing between the Olive-backed and Bicknell's Thrushes. The striking Veery quality of the song, with the absence of clear, high-

pitched whistles, seemed to decide the question in favor of Bicknell's.*

Whether or not any new records were made of summer residents in Pennsylvania, after two weeks stay, I felt more than satisfied with the bird population of Pocono Lake. Do I recommend you to go there? That depends on who you are. If you are one of those collectors to whom a dead bird is more than a living one, I beg of you to stay in some city where you can do little harm. If you require hotel accommodations, it is no place for you. But if you wish to pitch a tent on a grassy slope, under pointed spruces, beside a quiet lake, to see and hear what goes on in a choice corner of the bird world, then Pocono Lake may offer you just what you desire.

* This identification is given by the writer purely for what it is worth. The Bicknell's Thrush has never been found breeding south of the Catskills, but the Pocono plateau is in many respects a southern extension of these mountains, so that an interesting problem is here suggested.—Ed.

Summer Birds of Port Alleghany, McKean County, Pennsylvania

BY THOMAS D. KEIM

THE following observations were made during a trip taken by the writer and Mr. H. W. Fowler in the summer of 1904, covering the week of July 30th to August 6th. The lateness of the season and the consequent absence of songs accounts somewhat for the small number of species seen, while the fact that our time was occupied by other duties, also contributes to the incompleteness of the list.

Passing northward on the railroad, the work of the lumbermen was noted as soon as we left Williamsport, and on all sides could be seen the bare summits of the mountains, with here and there some few acres of trees, mostly hard wood, to remind the traveler of the primeval forest which covered this country in former years.

A word in passing about the hard-wood timber may not be amiss, as it is the innocent agent of much evil. Following closely after the axe of the woodman, there have been established throughout these lumber regions chemical works for the manufacture of wood alcohol, the beech being the principal tree in use for this purpose. During the manufacture of the alcohol a resinous, tar-like compound is allowed to escape into the streams. We found in our experience that in whatever stream this tar was present, the animal life was practically extinct, especially the fish.

Keating's Summit, on the railroad, is the highest point of the watershed, and from here the grade descends all the way to Port Alleghany, where we made our headquarters. The elevation of the town is fourteen hundred and seventy-seven feet above sea level, but the mountains rise on both sides of the valley some three hundred and fifty feet higher. The walking at

all times of day was delightful and the bracing mountain air soon made us forget our fatigue. The country around Port Alleghany is similar to that on the other side of the summit. The timber in the vicinity of the town is cut off, but a walk of two hours to the southward brings one to a large tract of primeval forest. The Alleghany river flows past the town, but at this point is but a small stream.

Notwithstanding the lateness of the season, we saw no evidence of migration, and all the birds seen appeared to be residents. For information on many species I am indebted to Mr. Guy Bert and Dr. McGrannon, of Port Alleghany.

Larus sp. One Gull, probably *L. atricilla*, was killed in the fall of 1903. It was shot in an exhausted condition after a storm, and had probably been blown in from Lake Erie. It was in immature plumage.

Butorides virescens, Green Heron. Called "Mud-hen." Not common. Two were seen.

Nycticorax nycticorax naevius, Night Heron. Not common. Two observed by Mr. Burt, August 6th.

Philohela minor, Woodcock. Gunned after with some success every year. Our only record was one at twilight heard close by.

Actitis macularia, Spotted Sandpiper. Reported common. We observed one along the river.

Bonasa umbellus, Ruffed Grouse. Reported as fairly abundant. Several good bags made by sportsmen last winter.

Ectopistes migratorius, Passenger Pigeon. One of these birds was shot at Roulette, Potter county, five years ago by Dr. McGrannon, who was familiar with the pigeon, when a boy, and is certain of the identity of this specimen.

Zenaidura macroura, Mourning Dove. One seen to take a drink close to us while fishing. The note of this species was frequently heard from the mountain sides.

Accipiter velox, Sharp-shinned Hawk. One was seen to make a strike and disappear in some scrubby growth, the small birds scattering in all directions.

Buteo borealis, Red-tailed Hawk. The cry of this species was heard with great distinctness one day for some time. The bird later sailed into the open still uttering his cry, and was then identified without doubt.

Buteo lineatus, Red-shouldered Hawk. One, apparently of this species observed. Its cry was a single, long-prolonged whine.

Syrnium varium, Barred Owl. Captured now and then.

Megascops asio, Screech Owl. Shot now and then; frequently heard.

Bubo virginianus, Horned Owl. Not so common as the former species. Usually heard in big timber.

Ceryle alcyon, Kingfisher. Common.

Dryobates villosus, Hairy Woodpecker. The note of this species was heard while walking through the hemlocks.

Dryobates pubescens medianus, Downy Woodpecker. One heard on August 1, and one on August 3, in some scrubby growth.

Ccophlœus pileatus abieticola, Pileated Woodpecker, called Log Cock and Wood Hen. Not seen by us and reported scarce. We found in the hemlocks a dead tree badly cut, probably the work of this species.

Melanerpes erythrocephalus, Red-headed Woodpecker. Three immature birds seen in a wooded ravine. These showed no fear and were quite tame. Not common.

Colaptes auratus luteus, Flicker. On August 2, the notes of this bird were heard on all sides in the valley. Before and after this date it was strangely silent.

Chordeiles virginianus, Nighthawk. Two seen flying over the town August 1, high in the air uttering their familiar cries.

Chætura pelagica, Swift. Common. One flew from a barn where they may have been breeding.

Trochilus colubris, Hummingbird. A female passed us in flying up the ravine, stopping to gather some honey from a flower nearby.

Tyrannus tyrannus, Kingbird. Note frequently heard, usually about gardens or farms. Solitary individuals in most cases.

Sayornis phoebe, Phoebe. Two records.

Contopus virens, Wood Pewee. More common than the former. Note frequently heard.

Cyanocitta cristata, Blue Jay. Cry heard several times from the side of the mountain. Not common.

Corvus corax principalis, Raven. One flew over our heads in the hemlocks. Made no sound. Not common.

Corvus brachyrhynchos, Crow. Common. Young heard at different times crying continually.

Dolichonyx oryzivorus, Bobolink. A number seen in the meadows. All females or young or else males after the molt. Their usual "chink" was frequently heard. At one time quite a large flock of about thirty passed by. They were in the grain field and about low bushes, only taking to larger trees when frightened. As usual they were not shy or difficult to approach. They were seen at various places.

Molothrus ater, Cowbird. An adult male and several brown females or young noted in the meadow lands.

Agelaius phœniceus, Red-winged Blackbird. Two females and one male. Found as usual in meadow land.

Sturnella magna, Meadow Lark. Common.

Quiscalus quiscula aeneus?, Bronzed Grackle. Mostly about houses or in the town. A number were evidently young, judging by their notes. No specimens secured, but probably this race.

Astragalinus tristis, Goldfinch. This was by far the commonest bird of the valley and was seen at all hours of the day, mostly solitary.

Poœcetes gramineus, Vesper Sparrow. Found during our stay in its characteristic localities. Common.

Spizella socialis, Chipping Sparrow. Common.

Spizella pusilla, Field Sparrow. Common in waste pastures or scrubby fields, especially in milk-weed patches with the Goldfinches.

Junco hyemalis, Snowbird. One seen in a wooded ravine. The nest was found on the side of a steep, shady bank. Eggs three, whitish, with a few pale-brown markings in a ring around the larger end. Frequently heard in hemlock woods.

Melospiza cinerea melodia, Song Sparrow. Common.

Pipilo erythrophthalmus, Chewink. Common.

Cyanospiza cyanea, Indigo-bird. Heard occasionally, not common. One female seen.

Piranga erythromelas, Scarlet Tanager. Heard in the hemlocks.

Petrochelidon lunifrons, Cliff Swallow. Perhaps more abundant than the next species.

Hirundo erythrogastra, Barn Swallow. Fairly abundant. Roosting along telegraph lines in company with the Cliff Swallows.

Ampelis cedrorum, Cedar-bird. Very abundant. Note frequently heard.

Lanius ludovicianus migrans, Migrant Shrike. One, apparently of this form, perched on the telegraph wires, and allowed us to pass beneath him. He flew several times to the ground, apparently after food.

Vireo olivaceus. Red-eyed Vireo. Two records.

Mniotilta varia, Black-and-White Warbler. One seen and heard in a ravine, among some small maples.

Dendroica æstiva, Yellow Warbler. Fairly abundant.

Dendroica cærulescens, Black-throated Blue Warbler. One observed, attracted by the cries of a Canadian Warbler. Later a male and female were found in the hemlocks. Probably common.

Dendroica pensylvanica, Chestnut-sided Warbler. One seen on the side of the mountain in scrubby growth.

Dendroica blackburniæ, Blackburnian Warbler. One record in the hemlocks.

Dendroica virens, Black-throated Green Warbler. One seen in some hard-wood trees in the hemlock forest.

Geothlypis trichas, Maryland Yellow-throat. Common, and well distributed. One pair found on top of the mountains in dense, scrubby growth.

Wilsonia canadensis, Canadian Warbler. We were probably close to the nest of this bird, as it became much excited at our presence, and kept up a continual calling, which attracted other birds to the scene while we were there.

Setophaga ruticilla, Redstart. A female was seen in some scrub chestnut growth at the summit of one of the mountains.

Galeoscoptes carolinensis, Catbird. Common, not in song.

Toxostoma rufum, Brown Thrasher. Several seen in the scrubby growth on top of the mountains.

Troglodytes ædon, House Wren. One record on top of the

mountain in scrubby growth; also two seen near some outbuildings on a farm.

Olbiorchilus hiemalis, Winter Wren. Common in the hemlocks.

Certhia familiaris americana, Brown Creeper. One heard in the hemlocks.

Parus atricapillus, Chickadee. One record.

Sitta canadensis, Red-breasted Nuthatch. Common. Heard in several places.

Hylocichla mustelina, Wood Thrush. One heard at evening during the twilight uttering his familiar, scolding note.

Hylocichla guttata pallasii, Hermit Thrush. This was the most abundant of the Thrushes, the note being frequently heard from the mountain sides, and in the hemlocks. Common.

Merula migratoria, Robin. Common.

Sialia sialis, Bluebird. Common, several pairs noted with young.

A Glimpse of Winter Bird Life in Delaware

BY CHARLES J. PENNOCK

It was only fairly daylight, on February 4, 1904, when I reached Wilmington, and no birds had been seen. Leaving Wilmington by train at half-past seven, two large Hawks, probably *Buteos*, were seen perched above the marsh along the Christiana creek on the outskirts of the city, watching for an early mouse astir, and forty or fifty Crows in small squads were distributed over the frozen marsh and bleak hillsides, with apparently small prospects of a very substantial meal. Bird-life at this time of day, with a fierce, cold wind blowing, was not much in evidence from a car window—two or three Meadow Larks, a flock of twenty-five or thirty Titlarks, and a single Sparrow Hawk, Cooper's Hawk and Turkey Buzzard were the only other birds seen before reaching Dover, with the exception of a lone adult Bald Eagle, perched on a dead tree not far distant from the railroad, and entirely indifferent to the cold and wind. At this season I suppose the Eagles must depend almost exclusively on carrion for their subsistence. They are not abundant about my home in Chester county, Penna., but I have known of three or four appearing in winter during the past few years, and they have frequented the vicinity of such a source of food supply.

Arriving at Dover at nine o'clock I tramped for two hours through several inches of snow, across open fields, through some small pine growth and sapling thickets, and nowhere found any abundance of birds. I observed a flock of Juncos, a few Tree Sparrows, a few Song Sparrows, a pair of Cardinals, two Blue Jays, one or two Fox Sparrows, a solitary Downy Woodpecker, and a couple of Red-shouldered Hawks, the latter at very close range near the railroad track. Crows were quite numerous, and during the entire tramp, excepting when in the timber, I believe I was at no time out of the sight of a Turkey Buzzard.

They were usually single birds wheeling and soaring, seemingly in a vain search for food, as there was no evidence of a united gathering at any attractive center. Once I saw three on the ground across a large field. They were close at the edge of a thicket, and being curious to know the attraction, I tramped across the crusted snow but found no evidence of any food; a few tracks in the softened snow and nothing more. Possibly they may have taken shelter from the fierce wind on the sunny side of the thicket, or there may have been some food there prior to the snow-fall and not yet uncovered.

Leaving Dover, I took the evening train for Lewes, and next morning started for the marsh and woods at the rear of Henlopen light-house.

Crows and Turkey Vultures were abundant, three or four of the latter were picking at the solidly frozen carcass of a long defunct horse, two stray Titlarks were by the roadside at the edge of the town and presently a flock of twenty or thirty flew from a wind-swept lot where there may have been some scant pickings, two or three flew close alongside of a small dwelling and seemed to find good hunting at the kitchen drain outlet, where they walked about tipping and swinging until a door opened and they flew to join the main body. A single Flicker flew from an old willow tree by the roadside and three or four Savanna Sparrows were under the lee of a snow-drift. Two small flocks of Meadow Larks and several Song Sparrows were along a hedge row in sheltered places. The cheery "chuck, chuck" of a Carolina Wren was heard and later two others were seen. A single Robin flew across a lot and lit at some distance and as I went along the overgrown fence row, to pay my closer respects to him, I roused a dozen or more Bluebirds that went floating and murmuring ahead of me, others were seen later, and some thirty Robins were observed during the walk. Several White-throated Sparrows hopped out and chirped that they might get on the list and an occasional Tree Sparrow flew on down the hedge. A pair or more of Chickadees "zee-deed" and presently, when close by the edge of the marsh, I found myself quite surrounded by Myrtle Warblers—the first one flying from the dead and dry reeds over the marsh when I shook

a strand of wire fence. Afterwards I saw several more of these birds, probably twenty-five in all, and it was extremely gratifying to meet a member of this family in mid-winter. Of course they have been known to winter regularly in lower New Jersey, but one does not fully appreciate such a statement until it is placed right before him with the wind, a gale and the mercury having recently recorded a minus quantity. Three Purple Finches perched on the tall weeds at the marsh edge and then flew into the cedars with the Warblers.

The open marsh, to the west of the woods is about three-quarters of a mile across, but missing the trail and having to retrace in part my route to cross a tidal stream, I made it nearly two miles. This part of the trip showed no birds and required brisk walking to keep comfortably warm. The timber was sparse and of small growth, much cut out and the undergrowth of bay with many green briars. I had scarcely entered on the cart-road leading into the woods when I was greeted with the familiar "mew" of a Catbird and saw it fly across a small opening with a tangle of briars. Here the Myrtle Warblers and White-throats were again in evidence. As I entered farther into the pines I found the walking bad enough, a few teams had broken up the roadway and the hard freezing made the path too rough for pleasure. Presently I heard an apparently familiar note, but for some time could neither discover the bird nor recognize his voice, as I listened and watched, tramping at times into soft drifts of a foot or more in depth. I at last saw the bird and my pleasure and surprise were indeed great to again greet an old south Georgian friend in the form of a Brown-headed Nuthatch. Mr. Rhoads had found this species in lower Delaware during the breeding season and it is usually resident where found, but being at the northernmost limit of its breeding range of this bird a winter record is of interest, particularly during such a winter as we have just experienced and it only the more fully confirms the fact that the bird is resident throughout its range. I spent considerable time watching my old friend and renewing an acquaintance with his active and versatile movements. At times I was within fifteen feet of him as he traveled around the tip of a small pine limb ;

again he flew to a distance and I almost lost him and then he flew back towards me as I was on his trail; finally he went off without an adieu and I continued my tramp oceanward.

Under the protected inshore bank where the curiously drifting sands are burying the pine trees, a Downy Woodpecker and two Red-breasted Nuthatches were hunting for a lunch and as I came out in view of the ocean, high upon the sandbank, above and to the rear of the lighthouse, I could see a single Gull beating its way up shore against the wind. It was over a half a mile distant and I could only guess it to be a Herring Gull. I tarried for a few minutes up in the lighthouse chatting with the keeper.

At times the winds blow the sands until they threaten to smother the entrance to the lighthouse, but at present all is swept clean at the base, but far to the rear the shifting dune has been carried on like a rolling mountain, covering many trees far beneath its crest. A hurried walk back to the town across the bare sands and marsh showed nothing new but a flock of eighteen Snow Buntings feeding and flying ahead of me for a short distance but apparently loath to leave the vicinity of the shore.

Report on the Spring Migration of 1904

COMPILED BY WITMER STONE

Observations on the spring arrival of birds were continued as in previous years, the distribution and collection of schedules being conducted by Mr. Samuel C. Palmer, Swarthmore, Delaware Co., Pa. A material increase in the number of observers is to be noticed, no less than fifty-four schedules having been returned. The 1904 corps of observers is as follows:

New Jersey.

Cape May, H. Walker Hand.
Downstown (near Newfield), W. W. Fair.
West Berlin, Earl R. Lippincott.
Yardville, Rachel E. Allinson.
Summit, LaRue K. Holmes.
Beverly, J. Fletcher Street.
Burlington, Helen F. Carter.
Moorestown, Anna A. Mickle.
Moorestown, Wm. B. Evans and others.
Rancocas, Emily Haines.
Haddonfield, Mrs. E. M. Hamlin.
Haddonfield, H. E. Doughty.

Pennsylvania.

Kennett Square, Charles J. Pennock.
Kennett Square, Elizabeth W. Hicks.
Concordville, Mrs. K. R. Styer.
Lenape, Ellen C. Carter and others.
Westtown, Albert Linton, Jas. G. Vail, Edith Smedley, etc.
West Chester, W. E. Roberts.
Knowlton, Bruce P. Tyler.
Swarthmore, Samuel C. Palmer.
Swarthmore, George S. Roberts.

Lansdowne, John D. Carter.
Lansdowne, Louisa M. Jacob.
Lansdowne, Aldrich J. Pennock.
Lansdowne, Anna D. White.
Lansdowne, Friends' School.
Lansdowne, Frank A. Eaton.
Lansdowne, J. H. Austin and W. R. White.
Secane, Edwin L. Palmer.
Media, Lydia G. Allen.
Media, Philip H. Moore.
Overbrook, C. J. Hunt.
Overbrook, Elmer Onderdonk.
West Philadelphia, J. H. Steele.
West Philadelphia, Dr. J. F. Prendergast.
Ardmore, Wm. L. Baily.
Haverford, W. J. Serrill.
Bryn Mawr, Miss Emily H. Thomas.
Germantown, Samuel Mason, Jr.
Germantown, Stewardson Brown.
Wissahickon, John R. Pickering.
Hunting Park, Alexander Patman.
Olney, George S. Morris.
Oak Lane, Richard C. Harlow.
Holmesburg, H. W. Fowler.
Frankford, Richard F. Miller.
Bristol, Thomas D. Keim.
Woodbourne, Edward Pickering, Jr.
George School, Students.
Pottstown, Hill School Ornithological Club.
Perkasie, Albert C. Rutter.
Marietta, W. H. Buller.
Columbia, J. Jay Wisler.
Lopez, Otto Behr.

The records of arrival of all the species at the stations within ten miles of Philadelphia will be found in the accompaning tables, while the large schedule contains the arrivals of the more common species at the remaining stations.

The "Philadelphia" stations have been grouped as follows, on the plan of previous years:

I. Bristol, Burlington, Beverly, Rancocas.
II. Moorestown.
III. Haddonfield.
IV. Swarthmore, Lansdowne, Secane, Media.
V. Overbrook, West Fairmount, Ardmore, Haverford, Bryn Mawr.
VI. Germantown, Wissahickon, Olney, Oak Lane, Frankford.

Comparing the earliest dates of arrival in each of these sections for twenty-one common species, we find that eight were first seen in the Ardmore section, seven in the Germantown section, six in the Swarthmore, and one each in the Moorestown and Bristol sections. Tabulating this data as in former reports we have the following result:

	Bristol.	Moorestown.	Swarthmore.	Ardmore.	Germantown.
First . .	1	1	6	8	7
Second .	7	3	5	4	7
Third . .	6	5	4	2	4
Fourth .	4	8	5	1	2
Fifth . .	3	4	1	6	1

Or by giving a rank of 21 to the section which might have been first to observe all the species, we get relative ranks as follows: Germantown 46, Swarthmore 53, Ardmore 56, Bristol 64, Moorestown, 74. The Haddonfield record being too deficient to warrant consideration.

This comparison would seem to indicate a tendency on the part of arriving birds to spread over the entire Philadelphia district simultaneously, the apparent earlier arrival in the immediate vicinity of the river, indicated in previous years, being less marked. The variability in the time of arrival as recorded at nearby stations is, however, remarkable, indicating how stragglers may arrive here and there days before the species is recorded at the bulk of the stations. Of course, this may be due in some degree to careless observation, but not usually, as can be seen by the general unanimity of arrival at a number of stations on the same day, dates of arrival *later* than this "bulk movement" are, of course, due to lack of opportunity for continuous observation.

The following examples will illustrate this point, the names of the earlier stations, from which the species was reported, are given in order to show that they were by no means always the most southern or nearest to the river.

Chimney Swift.

April 15. Haddonfield, Lansdowne.
April 21. Westtown.
April 22. Beverly, Bryn Mawr.
April 23. Olney.
April 24. Eight stations.
April 25. Sixteen stations.

Scarlet Tanager.

April 30. Olney, Germantown.
May 3. Bryn Mawr.
May 5. Haverford.
May 6. Ten stations.

Ovenbird.

April 22. Olney.
April 24. Knowlton.
April 25. Oak Lane.
April 26. Lansdowne.
April 29. Frankford, Kennett, Swarthmore.
April 30. Seven stations.
May 1. Ten stations.

Wood Thrush.

April 22. Bryn Mawr, Concordville.
April 26. Frankford.
April 28. Olney.
April 29. Six stations.
April 30. Seven stations.
May 1. Six stations.

	Moorestown, N. J.	Haddonfield, N. J.	Swarthmore, Pa.	Lansdowne, Pa.	Secane, Pa.	Media, Pa.	Overbrook, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Hunting Park, Phila.	Olney, Phila.	Oak Lane, Phila.	Frankford, Phila.
Canada Goose	.....	.....	Mar. 24	Mar. 8	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 27		
Green Heron	May 1	.....	Apr. 26	Apr. 30	Apr. 30	.....	.....	.....	Apr. 29	Apr. 29	.....	.....	.....	Apr. 29	.....	May 23
Night Heron	Apr. 10	.....	May 14	May 13	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 14	Apr. 23	Apr. 19
Spotted Sandpiper	Apr. 23	.....	Apr. 18	Apr. 25	.....	Apr. 23	Apr. 17	.....	May 25	.....	.....	.....	.....	Apr. 29	Apr. 25	Apr. 26
Solitary Sandpiper	May 14	.....	May 2	.....	.....	.....	.....	.....	May 14	Apr. 16	.....	.....	.....	May 2	.....	May 2
Killdeer	Mar. 8	.....	May 1	.....	.....	May 11	Mar. 20	.....	Mar. 12	Mar. 12	.....	.....	.....	.....	Mar. 3	Mar. 3
Dove	Mar. 29	.....	Mar. 25	.....	Mar. 27	Feb. 27	Mar. 27	May 8	Mar. 27	Apr. 15	.....	Apr. 18	.....	Mar. 19	Mar. 19	Mar. 24
Osprey	Apr. 2	.....	.....	Mar. 26	.....	.....	.....	.....	.....	.....	.....	.....	.....	Mar. 29	.....	Apr. 18
Turkey Vulture	Mar. 20	Mar. 21	Mar. 13	Mar. 18	Apr. 2	Mar. 18	Mar. 20	.....	Apr. 23	Apr. 30	.....	.....	.....	.....	.....	Apr. 25
Yellow-billed Cuckoo	May 10	.....	May 13	May 8	May 28	.....	.....	.....	May 25	.....	May 12	.....	Apr. 26	.....	Apr. 13	May 10
Black-billed Cuckoo	May 18	.....	.....	.....	.....	May 9	.....	.....	.....	.....	.....	.....	.....	May 2	.....	
Kingfisher	Mar. 28	May 17	Mar. 24	Apr. 10	.....	Feb. 14	Mar. 20	.....	Mar. 27	Apr. 17	.....	Mar. 20	May 22	May 6	May 16	
Yellow-bellied Saps'k'r.	.....	.....	.....	Apr. 8	.....	Mar. 25	.....	.....	.....	May 12	.....	Apr. 3	Apr. 6	Mar. 30	Feb. 2	Apr. 11
Red-headed Woodp'k'r.	.....	.....	May 12	May 12	May 13	May 22	.....	.....	May 21	May 8	.....	.....	Apr. 5	Apr. 28	Apr. 5	Apr. 18
Flicker	Mar. 20	Mar. 20	Feb. 20	Mar. 8	Mar. 27	Jan. 9	Mar. 13	Mar. 5	Mar. 23	Mar. 12	Mar. 17	Mar. 5	Mar. 29	.....	May 28	May 20
Whip-poor-will	.....	.....	Apr. 28	Apr. 25	.....	Apr. 28	.....	.....	May 1	.....	.....	May 6	Mar. 20	.....	Feb. 8	Feb. 26
Nighthawk	.....	.....	May 13	May 25	May 11	Apr. 28	May 10	May 6	May 22	.....	.....	.....	.....	May 10	May 2	
Chimney Swift	Apr. 24	Apr. 15	Apr. 24	Ap. 15[1]	May 1	Apr. 24	Apr. 30	Apr. 26	Apr. 24	Apr. 29	Apr. 22	Apr. 25	Apr. 29	Apr. 23	Apr. 25	Apr. 25
Hummingbird	May 13	May 14	May 3	May 10	.....	Apr. 30	.....	.....	.....	May 7	May 3	May 14	June 2	May 1	Jan. 1	May 9
Kingbird	May 5	.....	May 15	.....	May 4	May 6	.....	May 6	Apr. 30	May 1	.....	May 6	.....	May 1	May 5	May 5
Crested Flycatcher	May 5	May 5	May 6	May 4	May 16	May 5	May 15	May 6	May 1	May 7	May 3	May 24	.....	Apr. 29	May 5	May 5
Phoebe	Apr. 3	.....	Mar. 21	Mar. 13	Mar. 27	Mar. 20	Mar. 27	Mar. 24	Mar. 26	Mar. 19	Mar. 15	Mar. 27	Mar. 20	Mar. 23	Mar. 26	Mar. 21
Wood Pewee	May 12	May 5	May 10	May 8	May 29	May 8	May 13	May 8	May 14	May 11	.....	May 19	.....	.....	May 5	May 11
Acadian Flycatcher	.....	.....	.....	May 15	.....	Apr. 29	.....	.....	May 1	May 11	.....	.....	.....	.....	May 9	May 11

[1] Next seen April 24.

	Moorestown, N. J.	Haddonfield, N. J.	Swarthmore, Pa.	Lansdowne, Pa.	Secane, Pa.	Media, Pa.	Overbrook, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Hunting Park, Phila.	Olney, Phila.	Oak Lane, Phila.	Frankford, Phila.
Least Flycatcher	.....	.....	Apr. 26	Apr. 25	.....	May 16	.....	.....	May 8	May 11	May 3	May 16	.....	.....	.....	Apr. 26
Bobolink	May 6	.....	.....	.....	.....	.....	.....	.....	.....	May 12	.....	.....	May 13	.....	May 8	May 10
Cowbird	Mar. 27	.....	Mar. 27	Mar. 19	.....	Mar. 25	.....	.....	Mar. 27	Mar. 20	.....	Apr. 10	Mar. 31	Apr. 2	Mar. 26	Apr. 14
Red-winged Blackbird.	Mar. 13	Mar. 9	Mar. 17	Mar. 8	Apr. 29	Mar. 19	Mar. 20	.....	Mar. 19	Mar. 19	.....	Mar. 5	Mar. 23	Mar. 15	May 8	Mar. 16
Meadow Lark	.....	Mar. 6	Mar. 8	Mar. 5	Mar. 13	Jan 21[3]	Mar. 13	Mar. 5	Mar. 13	Jan. 17	Mar. 17	Mar. 19	Mar. 25	Mar. 9	Feb. 22	Feb. 6
Orchard Oriole	May 1	May 13	May 6	May 10	.....	May 5	.....	.....	May 8	May 1	.....	.....	.....	.....	May 8	May 11
Baltimore Oriole	May 1	May 3	May 8	May 5	.....	May 2	.....	.....	May 7	May 5	.....	May 4	.....	May 3	May 7	May 9
Rusty Blackbird	Mar. 20	.....	.....	Mar. 20	.....	.....	.....	.....	Apr 24[4]	.....	.....	.....	Mar. 20	.....	Mar. 13	
Purple Grackle	Mar. 5	Mar. 9	Mar. 7	Mar. 3	Mar. 13	Mar. 8	Mar. 12	Mar. 9	Mar. 8	Mar. 8	Feb. 29	Mar. 5	Mar. 10	Mar. 6	Feb. 28	Mar. 5
Vesper Sparrow	Mar. 23	.....	Apr. 6	.....	May 27	Apr. 3	Apr. 2	.....	Mar. 27	Apr. 6	.....	Apr. 20	.....	Mar. 30	Mar. 21	Apr. 6
Savanna Sparrow	...	.....	.....	Apr. 16	.....	.....	.....	.....	Apr. 24	Apr. 23	.....	.....	.....	.....	.....	Mar. 22
Grasshopper Sparrow.	May 1	.....	.....	.....	May 23	May 20	May 1	.....	Apr. 30	May 1	.....	Apr. 23	.....	.....	Apr. 25	May 22
Chipping Sparrow	Mar. 26	Apr. 9	Apr. 4	Mar. 19	Apr. 20	Apr. 2	Apr. 6	.....	Mar. 27	Apr. 6	Apr. 5	Apr. 9	Apr. 8	Apr. 10	Apr. 1	Apr. 6
Field Sparrow	Mar. 26	Apr. 12	Mar. 29	Mar. 19	Mar. 20	Mar. 16	May 27	.....	Mar. 27	Apr. 6	Mar. 15	Apr. 3	Mar. 29	.....	Feb. 29	Jan. 12
Swamp Sparrow	May 1	.....	Apr. 25	Apr. 13	.....	.....	.....	.....	Mar. 27	Apr. 17	.....	.....	May 8	Apr. 28	.....	Apr. 18
Fox Sparrow	Mar. 20	.....	Mar. 13	Mar. 9	Mar. 20	Mar. 12	May 12	.....	Mar. 13	Mar. 9	.....	Mar. 12	Mar. 10	Feb. 26	Mar. 10	Mar. 15
Chewink	Apr. 9	May 5	Mar 27[1]	Apr 10[2]	.....	Apr. 13	May 23	Apr. 24	Apr. 28	Apr. 29	May 3	Apr. 19	.....	Apr. 28	May 6	Apr. 25
Rose-breasted Grosbeak.	.....	May 8	Apr. 26	May 5	.....	May 6	May 6	.....	May 8	May 11	.....	May 13	.....	.....	.....	May 14
Indigobird	May 25	May 17	May 7	May 5	May 15	May 1	May 13	.....	May 8	May 8	May 3	May 11	.....	May 1	May 10	May 9
Scarlet Tanager	May 6	May 16	May 7	May 6	May 13	May 6	May 10	May 8	May 8	May 5	May 3	Apr. 30	.....	Apr. 30	May 15	May 11
Purple Martin	Apr. 17	Mar. 29	May 12	.....	.....	May 9	.....	.....	.....	.....	.....	Apr. 20	.....	.....	.....	Apr. 2
Cliff Swallow	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 9
Barn Swallow	Apr. 10	.....	Apr. 24	Apr. 24	Apr. 29	May 8	May 1	Apr. 25	May 1	Apr. 10	.....	Apr. 16	May 1	Apr. 24	Apr. 19	Apr. 12
Tree Swallow	May 10	.....	.....	Apr. 29	May 14	May 1	.....	.....	May 1	Apr. 23	.....	Apr. 16	May 1	.....	Apr. 22	Apr. 19

[1] Next seen April 7. [2] Next seen April 24. [3] Next March 20. [4] At Paoli, Pa.

	Moorestown, N. J.	Haddonfield, N. J.	Swarthmore, Pa.	Lansdowne, Pa.	Secane, Pa.	Media, Pa.	Overbrook, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Hunting Park, Phila.	Olney, Pa.	Oak Lane, Phila.	Frankford, Phila.
Bank Swallow	.....	.....	.....	.....	.....	May 15	.....	Apr. 25	.....	.....	.....	.....	.....	Apr. 9	Apr. 9	Apr. 30
Rough-winged Swallow	.....	.....	Apr. 19	.....	.....	Apr. 24	May 1	.....	May 8	Apr. 17	.....	.....	.....	Apr. 25	Apr. 23	Apr. 30
Cedar Bird	Mar. 6	.....	May 27	.....	.....	May 24	.....	.....	May 8	May 8	Mar. 3	May 24	.....	.....	Feb. 24	Apr. 29
Red-eyed Vireo	May 4	May 5	May 8	May 5	May 13	May 6	May 1	May 6	May 8	May 6	May 3	May 6	.....	May 2	May 6	May 5
Warbling Vireo	May 7	.....	May 6	May 7	.....	May 24	May 13	.....	June 1	May 7	.....	May 6	.....	.....	.....	May 14
Yellow-throated Vireo	May 4	May 7	May 1	Apr. 30	.....	May 2	.....	.....	May 8	May 8	.....	.....	.....	May 1	.....	May 19
Solitary Vireo	.....	.....	Apr. 26	Apr. 23	.....	.....	.....	.....	Apr. 24	Apr. 24	.....	.....	.....	Apr. 24	.....	.....
White-eyed Vireo	May 6	May 7	May 1	May 8	.....	May 7	May 1	.....	May 8	May 14	.....	.....	.....	Apr. 28	May 7	May 11
Black and White Warbler	Apr. 24	.....	Apr. 25	Apr. 23	.....	Apr. 25	May 1	May 1	Apr. 24	Apr. 24	May 3	Apr 29	.....	Apr. 19	Apr. 23	Apr. 25
Worm-eating Warbler	.....	.....	May 3	May 1	.....	May 11	.....	.....	.....	.....	May 6	.....	.....	.....	Apr. 30	May 11
Blue-winged Warbler	May 4	.....	May 1	May 7	.....	May 4	.....	.....	May 8	May 12	.....	.....	.....	.....	May 10	Apr. 28	May 10
Parula Warbler	May 4	May 5	May 1	May 1	.....	May 8	.....	.....	May 8	May 7	May 3	.....	.....	May 3	.....	.....
Yellow Warbler	Apr. 26	May 4	May 1	May 3	.....	May 6	.....	May 1	May 8	May 7	.....	.....	.....	Apr. 26	May 6	Apr. 30
Black-thr'd Blue W'b'r.	May 5	.....	May 1	May 1	.....	May 6	May 13	May 5	May 6	May 5	May 3	May 11	.....	May 3	May 6	May 11
Myrtle Warbler	Apr. 17	.....	Apr. 25	No. 24'	May 28	Apr. 17	May 1	Apr. 25	May 1	Apr. 24	.....	.....	Mar. 25	Apr. 9	Apr. 23	Apr. 18
Magnolia Warbler	May 12	.....	May 10	May 9	.....	May 9	May 6	.....	May 6	May 11	May 3	May 11	.....	May 2	May 6	May 9
Chestnut-sided Warbler	May 12	May 7	May 12	May 9	.....	.....	May 13	.....	May 14	May 11	May 12	May 5	.....	May 5	.....	May 11
Black-poll Warbler	May 7	.....	May 6	May 8	.....	May 9	.....	.....	May 8	May 6	May 12	May 21	.....	May 12	May 7	May 14
Blackburnian Warbler	.....	.....	May 12	May 12	May 11	May 16	.....	.....	.....	May 11	.....	.....	.....	.....	.....	.....
Black-thr'd Green W'b'r	May 1	.....	May 15	Apr. 26	.....	.....	May 1	May 5	May 1	May 11	May 3	May 4	.....	Apr. 29	May 14	May 11
Pine Warbler	Apr. 17	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Yellow Palm Warbler	Apr. 24	.....	Apr. 5	Apr. 3	.....	Apr. 17	Apr. 13	Apr. 24	Apr. 15	Apr. 15	.....	Apr. 16	.....	.....	Apr. 15	Apr. 8
Prairie Warbler	May 19	.....	.....	.....	.....	.....	.....	.....	May 8	May 8	.....	.....	.....	.....	May 10	.....

'Next seen April 7.

	Moorestown, N. J.	Haddonfield, N. J.	Swarthmore, Pa.	Lansdowne, Pa.	Secane, Pa.	Media, Pa.	Overbrook, Pa.	W. Fairmount Park, Phila.	Ardmore, Pa.	Haverford, Pa.	Bryn Mawr, Pa.	Germantown, Phila.	Hunting Park, Phila.	Olney, Pa.	Oak Lane, Phila.	Frankford, Phila.
Ovenbird	May 1	May 5	Apr. 29	Apr. 26	.....	Apr. 30	May 1	May 1	May 1	May 1	May 3	May 1	Apr. 5	Apr. 22	Apr. 25	Apr. 28
Water Thrush	.....	.....	Apr. 25	Apr. 30	.....	Apr. 29	.....	May 6	Apr. 28	Apr. 29	May 12	May 1	.....	Apr. 29	.....	May 9
Kentucky Warbler	.....	.....	May 7	May 5	May 22	May 14	May 13	.....	May 8	May 7	.....	.....	.....	May 4	May 7	May 14
Maryland Yellow-throat	Apr. 25	May 8	Apr. 25	Apr. 15	May 15	Apr. 24	May 9	May 3	Apr. 30	May 1	May 3	May 6	May 6	Apr. 30	Apr. 25	May 6
Chat	.....	.....	May 14	May 5	May 13	May 2	May 15	.....	May 8	May 8	May 3	May 8	.....	May 6	May 2	May 11
Canada Warbler	May 13	May 16	May 10	May 10	.....	May 16	May 13	May 6	May 8	May 8	May 12	.....	.....	May 2	.....	May 14
Redstart	Apr. 25	.....	May 1	Apr. 30	.....	May 5	May 1	May 6	May 1	May 6	May 3	May 6	.....	Apr. 28	May 2	May 2
Catbird	Apr. 30	Apr. 26	Apr. 25	Apr. 25	May 16	Apr. 29	May 1	May 6	May 1	May 1	May 3	Apr. 22	May 7	Apr. 30	May 2	Apr. 30
Brown Thrasher	Apr. 17	Apr. 30	Apr. 24	Apr. 11	.....	Apr. 23	Apr. 30	May 1	Apr. 28	Apr. 15	May 5	Apr. 29	May 7	Apr. 28	Apr. 26	Apr. 25
House Wren	Apr. 26	May 8	May 10	Apr. 25	.....	May 1	May 1	May 6	Apr. 21	Apr. 30	Apr. 22	Apr. 22	.....	Apr. 30	Apr. 28	Apr. 22
Long-bill'd Marsh Wren	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 12
Ruby-crowned Kinglet	Apr. 24	.....	Apr. 17	Apr. 4	.....	Apr. 13	Apr. 14	Apr. 15	Apr. 28	Apr. 10	Apr. 5	May 10	Apr. 26	.....	Apr. 2	Apr. 11
Wood Thrush	Apr. 30	May 7	May 3	Apr. 29	May 8	Apr. 29	May 1	May 1	May 5	Apr. 30	Apr. 22	Apr. 29	May 7	Apr. 28	May 2	Apr. 26
Wilson's Thrush	Apr. 25	.....	May 1	Apr. 26	May 15	Apr. 30	May 6	May 6	May 6	May 1	May 3	May 1	.....	Apr. 25	May 2	Apr. 25
Gray-cheeked Thrush	.....	.....	.....	May 10	.....	May 16	.....	.....	.....	May 8	.....	May 21	.....	.....	May 15	May 13
Olive-back Thrush	May 11	May 13	May 12	May 1	.....	.....	May 10	.....	May 1	May 11	.....	May 11	.....	Apr. 28	May 5	.....
Hermit Thrush	Apr. 17	.....	Apr. 17	Apr. 3	.....	Apr. 13	Apr. 14	.....	Apr. 3	Apr. 8	Apr. 5	Apr. 10	.....	Apr. 22	Apr. 2	Apr. 11
Robin	Mar. 8	Mar. 10	Mar. 10	Feb. 24	Jan. 17	Mar. 8	Mar. 6	Mar. 5	Feb. 22	Feb. 22	Mar. 3	Mar. 8	Mar. 19	Mar. 6	Jan. 25	Mar. 11
Bluebird	Mar. 13	Feb. 16	Mar. 6	Mar. 4	Feb. 14	Mar. 9	Mar. 6	Mar. 5	Mar. 6	Feb. 27	Feb. 23	Mar. 5	Mar. 19	Mar. 4	Mar. 4	Mar. 3

List of Other Species Reported by Observers during 1904, and Additional Notes. Winter Notes relate to Winter of 1903–4.

Holboell's Grebe, *Colymbus holboellii*. One shot near Marlton, N. J., April 4 (*Carter*), one at Sandiford, Phila., February 13 (*Miller*), and one at Kennett Square, February 9 (*C. J. Pennock*).

Loon, *Gavia imber*. Cape May, N. J., April 24 (*Hand*).

Black-backed Gull, *Larus marinus*. One shot at Anglesea, N. J., February 5 (*Stone*).

Herring Gull, *Larus argentatus*. Numerous on the Susquehanna at Columbia, March 8–14 (*Wisler*). Last seen at Frankford, Phila., April 25 (*Miller*), last at Cape May, N. J., May 22 (*Hand*).

Ring-billed Gull, *Larus delawarensis*. Two observed at Bridesburg, Phila., March 9 and again March 13 (*Miller*).

Black-headed Gull, *Larus atricilla*. Arrived at Cape May, N. J., April 4 (*Hand*).

Gannet, *Sula bassana*. Cape May, N. J., March 14 (*Hand*).

Double-crested Cormorant, *Phalacrocorax dilophus*. Cape May, April 21 (*Hand*).

Merganser, *Merganser americanus*. Bristol, May 27 (*Keim*).

Wood Duck, *Aix sponsa*. One observed on Darby Creek, April 26 (*A. J. Pennock*).

Buffle-head, *Charitonetta albeola*. Bridesburg, Phila., March 9 (*Miller*).

Whistling Swan, *Olor columbianus*. Two flocks appeared on the Susquehanna at Marietta, March 19, one of five, the other of thirteen individuals; three were killed (*Buller*).

Bittern, *Botaurus lentiginosus*. Moorestown, N. J., April 5 (*Evans*), Summit, N. J., April 10 (*Holmes*).

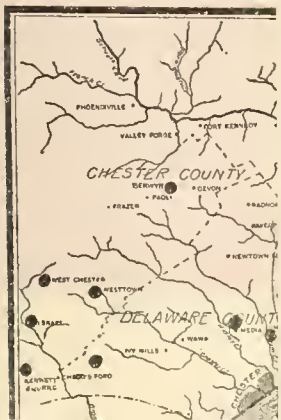
Great Blue Heron, *Ardea herodias*. Frankford, Phila., May 2 (*Miller*), Lansdowne, March 26 (*A. J. Pennock*), Pottstown, May 9 (*Hill School Club*), Downstown, N. J., May 15 (*Fair*), Summit, N. J., April 3 (*Holmes*).

Little Blue Heron, *Ardea caerulea*. One adult male seen at Holmesburg, May 11 (*Miller*).

Clapper Rail, *Rallus crepitans*. Cape May, N. J., March 5 (*Hand*).

Names.

Flicker .....
Whip-poor-will .....
Nighthawk..... .....
Chimney Swift.....
Hummingbird ....
Kingbird .....
Crested Flycatcher.....
Phoebe .....
Bobolink ..... .
Cowbird .....
Red-winged Blackbird .....
Baltimore Oriole ....
Purple Grackle .....
Chipping Sparrow .....
Chewink .....
Indigobird .....
Scarlet Tanager .....
Purple Martin .....
Barn Swallow .....
Red-eyed Vireo .....
Black and White Warbler....
Chestnut-sided Warbler.....
Ovenbird .....
Maryland Yellow-throat.....
Chat .....
Catbird .....
Brown Thrasher .....
House Wren.....
Wood Thrush ....
Hermit Thrush .....
Robin .....
Bluebird .....



Name	Cape May N. J.	Downstown N. J.	West [illegible]	Kennett Square	Concordville, Pa.	West Chester, Pa.	Westtown	Lenape, Pa.	Knowlton [illegible]	Rancocas, N. J.	Beverly N. J.	Burlington N. J.	Bristol Pa.	Yardville, N. J.	Woodbourne, Pa.	George School Pa.	Pottstown, Pa.	Perkasie Pa.	Marietta Pa.	Columbia, Pa.	Summit, N. J.	Lopez, Pa.
[illegible]	Mar. 20	Mar. 23	Mar. 24	Mar. 26	.....	.....	.....	.....	Mar. 17	.....	Mar. 13	Mar. 9	Mar. 13	Feb. 20	*	Feb. 14	Mar. 26	Apr. 12	Feb. 26	Apr. 24	Mar. 20	Apr. 2
[illegible]-will	May 1	Apr. 18	Apr. 28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	May 24	.....	.....	.....	.....	Apr. 29	May 1	.....	May 8
[illegible]hawk	.....	.....	May 14	.....	.....	.....	.....	.....	May 22	.....	.....	.....	.....	.....	.....	.....	May 16	.....	.....	.....	.....	.....
Chimney Swift	Apr. 20	Apr. 29	Apr. 25	Apr. 24	Apr. 24	Apr. 25	Apr. 21	.....	Apr. 25	Apr. 25	Apr. 22	Apr. 24	Apr. 25	Apr. 25	Apr. 20	Apr. 19	Apr. 21	Apr. 24	Apr. 25	Apr. 15	Apr. 25	May 7
Hummingbird	.....	May 14	May 17	May 11	.....	.....	.....	.....	May 16	.....	.....	May 1	.....	May 18	May 1	May 24	.....	.....	May 19	.....	May 24	May 15
Kingbird	Apr. 23	May 1	May 3	May 1	May 8	.....	Apr. 30	May 1	May 3	.....	May 6	May 8	May 8	May 15	Apr. 18	May 1	May 6	May 2	May 1	.....	May 8	May 22
Crested Flycatcher	.....	May 2	Apr. 25	May 6	Apr. 28	May 1	May 4	.....	May 15	.....	May 15	May 1	May 1	May 9	May 12	May 2	May 6	May 6	May 4	May 15	May 7	
Peewee	.....	Mar. 22	May 2	Mar. 23	Mar. 19	Mar. 2	Mar. 22	Mar. 20	Mar. 20	Apr. 7	Mar. 27	May 14	Mar. 20	Mar. 20	.....	Mar. 23	Mar. 25	Mar. 19	Apr. 15	May 1	Mar. 20	Apr. 4
Kingbird	.....	.....	.....	May 6	Apr. 30	.....	.....	May 4	.....	.....	.....	.....	.....	.....	Apr. 30	May 3	May 9	.....	May 6	.....	May 8	May 12
Cowbird	.....	.....	.....	Mar. 28	.....	Apr. 10	Mar 25	Mar. 8	.....	May 1	May 10	Mar. 20	Apr 7	Apr. 17	May 22	Mar 27	Apr. 16	Apr. 10	May 8	Apr. 3		
Red-winged Blackbird	Mar. 9	Mar. 8	Mar. 3	Mar. 8	Mar. 19	Mar. 8	Mar. 19	.....	Mar. 20	Mar 10	Mar 27	May 14	Mar. 13	Apr. 7	.....	Mar. 20	Mar. 20	Mar. 9	Apr. 15	Mar 20	Mar. 9	Mar. 20
Baltimore Oriole	May 1	May 5	May 17	May 5	May 6	May 5	May 6	May 6	May 6	.....	May 7	May 6	May 4	May 26	May 8	May 7	May 6	May 7	May 1	May 5	May 8	
Purple Grackle	Feb. 29	.....	Mar. 3	Mar. 7	Mar. 1	Mar. 7	Mar 7	.....	Mar. 8	Mar 9	Mar. 8	Mar. 8	Mar. 6	Mar 3	Mar. 3	Mar. 7	Mar. 7	Mar. 9	Mar 8	Mar. 8	Mar 13	
Chipping Sparrow	Apr 7	Mar 26	Mar. 31	Mar 30	Apr. 1	Apr. 11	Apr. 4	Apr 4	Apr. 1	Apr. 4	Mar. 29	Apr. 6	Apr. 24	Mar. 20	Apr. 17	Mar. 17	Mar. 29	Apr. 8	Mar. 26	Apr. 6	Apr. 5	Apr. 25
Chewink	Apr 4	Apr 10	Apr 25	May 6	Apr. 13	May 2	Apr. 30	Apr 28	Apr. 12	Apr 17	May 1	Apr. 29	Apr. 24	Apr. 17	.....	May 2	May 3	Apr. 24	Apr 20	Apr. 25	Apr 22	May 4
Indigobird	.....	.....	.....	May 8	May 13	.....	May 8	May 18	May 4	.....	May 1	May 13	.....	May 7	.....	May 20	May 20	.....	May 5	.....	May 17	May 14
Scarlet Tanager	.....	May 12	.....	May 6	May 6	.....	May 6	May 6	May 15	.....	May 15	May 8	May 18	May 16	.....	May 12	Apr 24	.....	May 10	May 8	May 8	May 14
Purple Martin	Apr 1	Apr 9	Apr. 19	.....	Apr 7	.....	.....	Apr. 2	May 7	Apr 7	.....	.....	.....	May 25	.....	.....	Apr. 30	Apr. 9	May 5			
Barn Swallow	May 1	May 15	Apr 29	Apr 12[1]	Apr. 18	Apr. 7?	.....	Apr. 15	Apr. 26	Apr 29	May 1	Apr. 29	Apr. 24	Apr 17	Apr 9	May 1	Apr. 19	Apr. 17	Apr. 20	May 8	Apr. 10	Apr 29
Red-eyed Vireo	.....	May 9	May 2	May 7	May 6	May 7	May 4	.....	May 2	.....	May 5	May 2	May 8	May 8	.....	.....	May 13	May 8	May 5	May 1	May 4	May 11
Black and White Warbler	.....	Apr. 24	Apr 25	May 6	Apr. 26	May 1	Apr. 23	.....	May 1	Apr. 29	Apr. 25	Apr. 29	Apr. 24	May 1	.....	Apr 24	Apr. 25	May 1	.....	Apr. 17	Apr. 25	May 4
Che tnut-sided Warbler	.....	.....	.....	May 11	.....	.....	May 6	.....	May 6	.....	.....	.....	.....	.....	.....	.....	May 13	.....	.....	May 1	May 6	May 9
Ovenbird	.....	May 8	May 1	Apr. 29	Apr. 30	Apr. 30	Apr 30	May 1	Apr 24	Apr. 30	May 1	May 1	May 7	May 2	May 1	May 2	May 6	May 7	.....	May 1	May 1	May 5
Maryland Yellow-throat	.....	May 1	.....	Apr. 27	Apr. 25	May 4	Apr 30	May 6	May 6	Apr. 30	Apr. 24	May 1	May 1	Apr. 30	.....	May 7	May 6	May 6	.....			
Chat	.....	May 15	May 4	May 8	May 3	May 6	May 4	May 8	May 6	.....	May 15	May 1	May 8	May 5	May 15	May 14	May 9	.....	May 10	.....	May 7	
Catbird	Apr. 27	May 1	Apr. 24	May 1	Apr. 25	May 1	Apr 30	Apr. 30	May 1	Apr. 30	May 1	May 1	May 1	May 1	Apr. 30	May 1	May 1	May 1	May 1	May 1	May 1	May 5
Brown Thrasher	Apr 24	Apr. 10	Apr. 23	Apr. 25	Apr. 18	Apr. 19	May 2	Apr. 23	Apr. 29	Apr 22[2]	Apr. 17	Apr. 29	Apr. 24	May 2	Apr. 30	Apr. 24	Apr. 24	Apr. 23	Apr. 15	May 1	Apr. 26	
House Wren	May 7	Apr. 28	Apr. 30	Apr 24	Apr 25	.....	Apr. 30	Apr. 26	May 15	Apr. 30	May 5	.....	.....	May 1	.....	May 2	Apr. 25	May 11	Apr. 28	May 1	May 8	
Wood Thrush	.....	.....	.....	Apr. 21	May 8	Apr. 22	.....	.....	May 6	Apr. 29	Apr 30	May 4	Apr. 29	May 1	May 1	.....	May 2	May 1	May 8	.....	May 8	May 2
Hermit Thrush	.....	.....	.....	.....	.....	Apr. 17	Apr. 25	Apr. 15	.....	Apr 10	.....	Apr. 24	Apr. 13	.....	.....	.....	Mar. 27	Apr. 16	Apr. 24	.....	May 1	May 1
Robin	Mar. 9	Mar 8	Mar. 3	Mar. 8	Jan. 25	Mar. 7	Mar 8	.....	Mar. 5	Mar. 9	Feb. 21	Mar 9	Mar. 6	Feb. 28	Mar. 8	Feb 28	Mar. 8	Mar. 11	Mar. 8	Feb. 15	Mar. 6	Mar. 8
Bluebird	Feb. 23	Feb. 22	Jan. 8	Mar. 8	Jan. 25	Mar. 7	Mar. 4	.....	Feb. 8	Mar. 16	Mar. 6	Mar 13	Feb. 29	Feb. 17	Feb. 16	Mar. 2	Feb. 29	.....	Feb. 29	Feb. 14	.....	Mar. 8

[1] Next seen April 24. [2] Next seen April 2? * All winter.

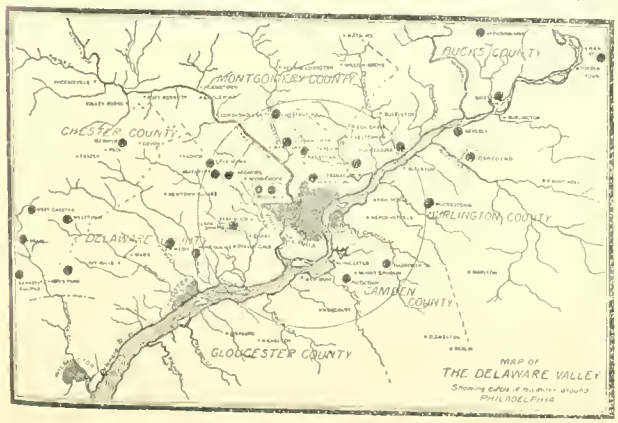


TABLE II.

SPRING MIGRATION, 1904

EARLIEST DATES OF ARRIVAL OF THIRTY-TWO SPECIES AT TWENTY-TWO STATIONS OUTSIDE THE PHILADELPHIA CIRCLE.

King Rail, *Rallus elegans.* Florence Heights, near Bristol, June 26 (*Keim*), Frankford, Phila., May 18 (*Miller*).

Woodcock, *Philohela minor.* Two at Swarthmore, April 29 (*Palmer*), one at 51st and Pine Sts., W. Phila., Oct. (*Stone*), one at 55th and Master Sts., W. Phila., March 23 (*Hunt*) and at Ardmore, July 3 (*Baily*).

Wilson's Snipe, *Gallinago delicata.* Cape May, N. J., March 9 (*Hand*), Oak Lane, March 26 (*Harlow*), Bristol, March 27 (*Keim*), Bridesburg, Phila., April 15 and 26 (*Miller*), Secane, (*E. L. Palmer*).

Semipalmated Sandpiper, *Ereunetes pusillus.* Cape May, N. J., March 31 (*Hand*).

Greater Yellow-legs, *Totanus melanoleucus.* Cape May, N. J., March 18 (*Hand*).

Upland Plover, *Bartramia longicauda.* Cupola, Chester Co., Pa., April 24 (*Hunt*), Frankford, Phila., April 9 (*Miller*).

Hudsonian Curlew, *Numenius hudsonicus.* Cape May, N. J., April 27 (*Hand*).

Golden Plover, *Charadrius dominicus.* A number shot at League Island, Phila., September 30 (*Hunt*).

Killdeer, *Oxyechus vociferus.* Wintered at Concordville (*Styer*).

Oyster Catcher, *Haematopus palliatus.* Two at Cape May, October 14, 1903 (*Hand*).

Bobwhite, *Colinus virginianus,* Lansdowne, May 25 (*A. D. White*).

Dove, *Zenaidura macroura.* Wallingford, Delaware Co., Pa., March 11 (*Morris*), wintered at Concordville and at Downstown, N. J., had eggs at Mt. Airy, Phila., April 9 (*Spaeth*).

Turkey Vulture, *Cathartes aura.* Wintered at Concordville (*Styer*), seen twice during January three miles north of Media (*Moore*).

Marsh Hawk, *Circus hudsonius.* Summit, N. J., April 10 (*Holmes*).

Sharp-shinned Hawk, *Accipiter velox.* Summit, N. J., May 12 (*Holmes*).

Cooper's Hawk, *Accipiter cooperi.* Summit, N. J., April 28 (*Holmes*).

Goshawk, *Accipiter atricapillus.* Pottstown, January 11, 16 and 17 (*Hill School Club*)

Red-tailed Hawk, *Buteo borealis.* Wintered at Lansdowne, Oak Lane, Frankford, etc.

Red-shouldered Hawk, *Buteo lineatus.* Reported all winter at Secane, Oak Lane, and Frankford.

Broad-winged Hawk, *Buteo platypterus.* Reported as wintering at Media (*Moore*), Columbia, May 1, not common here (*Wisler*), Swarthmore, March 1 (*Roberts*).

Rough-legged Hawk, *Archibuteo lagopus sancti-johannis.* Tinicum, February 27 (*Carter*), arrived at Summit, N. J., April 3 (*Holmes*).

Bald Eagle, *Haliœetus leucocephalus.* Florence Heights, near Bristol, August 11 (*Keim*), Upsal station, Germantown, September (*Stone*).

Duck Hawk, *Falco peregrinus anatum.* Secane during winter (*Palmer*), Moorestown, N. J., February 1 (*Evans*).

Sparrow Hawk, *Falco sparverius.* Reported as winter resident at Swarthmore, Lansdowne, Media, Bryn Mawr, Oak Lane and Frankford. Arrived at Summit, N. J., April 19 (*Holmes*), and at Lopez, Pa., April 6 (*Behr*).

Osprey, *Pandion haliaetus carolinensis.* Two on Pensauken Creek, N. J., April 10 (*Hunt*). One seen at Westtown, March 25 (*Linton, Vail*, etc.)

Long-eared Owl, *Asio wilsonianus.* Two roosted in evergreens at Yardville, N. J., from early February to early April (*Allinson*), one wintered in fir trees at Olney (*Morris*), one at Oak Lane, December 2, 1903 (*Harlow*).

Saw-whet Owl, *Nyctala acadica.* Ardmore, January 10 and 30 (*Baily*), Oak Lane, November 20, 1903 and February 6, 1904 (*Harlow*).

Screech Owl, *Megascops asio.* Reported as resident at Lansdowne, Media, Bryn Mawr, Oak Lane and Frankford.

Kingfisher, *Ceryle alcyon.* Observed through the winter at Westtown (*Linton, Vail*, etc.), Haddonfield, N. J., December 15, 1903 (*Doughty*), preparing nest at Lansdowne, April 16 (*Carter*).

Downy Woodpecker, *Dryobates pubescens medianus.* Reported

as resident all through the Delaware Valley, Perkasie and Pottstown.

Hairy Woodpecker, *Dryobates villosus.* Pottstown, April 21 (*Hill School Club*), and in winter at Oak Lane, Frankford and Media.

Red-headed Woodpecker, *Melanerpes erythrocephalus.* One pair nested at 59th street and Lancaster Ave., Philada. (*Hunt*).

Flicker, *Colaptes auratus luteus.* One bird all winter at Westtown (*Linton, Vail,* etc.), more plentiful than usual during winter at Concordville in spite of the severe cold (*Styer*).

Whip-poor-will, *Antrostomus vociferus.* One sang loudly in the northeastern part of Lansdowne, well within the town, on evening of April 25 (*Carter*).

Olive-sided Flycatcher, *Nuttallornis borealis.* Arrived at Lopez, June 1 (*Behr*).

Yellow-bellied Flycatcher, *Empidonax flaviventris.* Lansdowne, May 16, 17 and 18 (*A. J. Pennock*), Media, May 21 (*Moore*), Westtown, May 6 (*Vail, Linton,* etc.).

Horned Lark, *Otocoris alpestris.* Very large flocks at Woodbourne, Bucks Co., during winter (*Pickering*), irregular at Sandiford, Phila., in February, gunners shot thirty-eight in one day (*Miller*), Holmesburg, December 31, 1903 (*Fowler*), 60th street, W. Philadelphia in January (*Peck*), Pottstown, January 17 (*Hill School Club*), Cape May, N. J., all winter (*Hand*).

Crow, *Corvus brachyrhynchos.* Reported resident at most stations. At Sandiford, Phila., they flew towards the Bensalem roost (*Miller*), had eggs March 25, at Olney (*Morris*).

Blue Jay, *Cyanocitta cristata.* Observed through winter at Perkasie, Lansdowne, Secane, Bryn Mawr and Oak Lane. None seen till May at Frankford (*Miller*), first at Knowlton, May 1 (*Tyler*), Swarthmore, May 6 (*Roberts*).

Meadow Lark, *Sturnella magna.* Resident at Holmesburg, Phila. (*Fowler*), Cape May, N. J. (*Hand*), and a few at Westtown (*Linton, Vail,* etc.), Knowlton, January 18, not regular in winter (*Tyler*).

Cowbird, *Molothrus ater.* A few wintered at Cold Spring, Cape May, N. J., flocking with the Red-wings (*Hand*).

Red-winged Blackbird, *Agelaius phoeniceus.* A large flock at Cold Spring, Cape May, N. J., all winter (*Hand*).

Purple Grackle, *Quiscalus quiscula.* Building nests at Olney, March 12 (*Morris*).

Pine Grosbeak, *Pinicola enucleator leucura.* Flock of ten at Oak Lane, November 18, 1903, one of which was killed by a hawk and secured for identification (*Harlow*).

Purple Finch, *Carpodacus purpureus.* Reported in winter at Lansdowne, Oak Lane, Burlington, N. J., and Downstown, N. J., migrants noted at George School, May 2, Pottstown, April 24, Perkasie, May 1, Swarthmore, May 1, Frankford, April 25, Summit, N. J., April 20.

Redpoll, *Acanthis linaria.* Lansdowne, December 20, 1903, Frankford, Phila., January 12, on February 26, six, March 15, four (*Miller*).

Goldfinch, *Astragalinus tristis.* Reported in winter at Pottstown, Lansdowne, Secane, Media, Bryn Mawr and Oak Lane, none wintered at Frankford or Downstown, N. J.

Pine Finch, *Spinus pinus.* Lansdowne, January 31 (*A. D. White*), Bristol, April 24 (*Keim*).

Snowflake, *Passerina nivalis.* Pottstown, January 31, (*Hill School Club*), Bridesburg, Phila., March 1, one flock of thirty or forty reported in February (*Miller*).

White-crowned Sparrow, *Zonotrichia leucophrys.* Columbia, May 1 (*Wisler*), Frankford, Phila., April 4 and May 6 (*Miller*), Oak Lane, May 2 (*Harlow*), Summit, N. J., May 10 (*Holmes*), Audubon, N J., May 12 (*S. N. Rhoads*).

White-throated Sparrow, *Zonotrichia albicollis.* Wintered at Swarthmore, Secane, Media, Bryn Mawr and Lansdowne. Last noticed at Concordville, May 21 (*Styer*), Lansdowne, May 21 (*A. D. White*), Media, May 3 (*Allen*), Overbrook, May 15 (*Hunt*), Paoli, May 21 (*Baily*), Frankford, May 16 (*Miller*), Burlington, N. J., May 8 (*H. F. Carter*), arrived at Summit, N. J., April 10 (*Holmes*).

Tree Sparrow, *Spizella monticola.* All winter at most stations. Last seen at Downstown, N. J., April 3 (*Fair*), Summit, N. J., April 4 (*Holmes*), Frankford, April 20 (*Miller*), Columbia, March 20 (*Wisler*), Bristol, March 20 (*Keim*), Knowlton, March 20 (*Tyler*).

Junco, *Junco hyemalis.* All winter at most stations. Last record at Downstown, N. J., May 1 (*Fair*), Summit, N. J., May 5 (*Holmes*), Bristol, April 24 (*Keim*), Knowlton, May 1 (*Tyler*), Columbia, April 29 (*Wisler*), Media, May 1 (*Allen*), Overbrook, May 1 (*Hunt*), Frankford, May 2 (*Miller*).

Song Sparrow, *Melospiza cinerea melodia.* Generally resident.

Fox Sparrow, *Passerella iliaca.* Unpreecedented abundance during first few days of March at Olney (*Morris*).

Towhee, *Pipilo erythrophthalmus.* One bird at Secane, January 24 and again February 14 (*E. L. Palmer*).

Rough-winged Swallow, *Stelgidopteryx serripennis.* At least one pair nested on Indian Run on 68th street within the city limits (*Hunt*).

Cedarbird, *Ampelis cedrorum.* Flock of fifteen or twenty at Yardville, N. J., February 25 (*Allinson*).

Northern Shrike, *Lanius borealis.* Downstown, N. J., February 18 and March 21 (*Fair*), Pottstown February 8 (*Hill School Club*).

Yellow-throated Vireo. *Vireo flavifrons.* Several pairs remained around Ardmore all summer, for the first time in my experience (*Baily*).

Golden-winged Warbler. *Helminthophila chrysoptera.* Knowlton, May 6 (*Tyler*), Melmar, Montgomery Co., Pa., May 5 (*Miller*), Burlington, N. J., May 14 (*H. F. Carter*), Summit, N. J., May 8 (*Holmes*).

Nashville Warbler, *Helminthophila rubricapilla.* Lansdowne, May 10 (*Austin*), Westtown, May 12 (*Linton, Vail,* etc.), Concordville, May 11 (*Styer*).

Bay-breasted Warbler, *Dendroica castanea.* Bristol, May 22 (*Keim*), Lansdowne, May 18 (*A. D. White*), Westtown, May 16 (*Vail, Linton,* etc.).

Mourning Warbler, *Geothlypis philadelphia.* Lansdowne, June 1, one seen and song heard (*A. D. White*). Arrived at Lopez, May 22 (*Behr*), Summit, N. J., May 29 (*Holmes*). Several in full song evidently breeding at Kittaning Point, Blair Co., Pa., June 20 (*Stone*).

Hooded Warbler, *Wilsonia mitrata.* Burlington, N. J., May 15 (*H. F. Carter*), Columbia, May 1 (*Wisler*), Brush Mountain,

Blair Co., Pa., June 21, evidently nesting (*Stone*). The record in last report at Downstown, May 10, 1903, was an error.

Wilson's Warbler, *Wilsonia pusilla*. West Berlin, N. J., May 14 (*Lippincott*), Burlington, N. J., May 18 (*H. F. Carter*), Summit, N. J., May 15 (*Holmes*), Westtown, May 12 (*Vail, Linton*, etc.), Concordville, May 11 (*Styer*), Lansdowne, May 12 and 15 (*A. J. Pennock*), Media, May 19 (*Moore*), Haverford, May 11 (*Serrill*).

Titlark, *Anthus pensilvanicus*. Lansdowne, March 8 (*Carter*).

Mockingbird, *Mimus polyglottos*. Ardmore, April 25, one (*Baily*).

Winter Wren, *Olbiorchilus hiemalis*. Generally throughout winter in the Delaware valley, last seen at Frankford, May 2 (*Miller*), arrived at Summit, N. J., April 6 (*Holmes*).

Carolina Wren, *Thryothorus ludovicianus*. Reported as resident at Swarthmore, Lansdowne, Media, Secane, Bryn Mawr and once observed during winter at Downstown, N. J.

Brown Creeper, *Certhia familiaris americana*. Last seen at Summit, N. J., May 1 (*Holmes*), Frankford, Phila., April 28 (*Miller*), Bristol, March 20 (*Keim*).

White-breasted Nuthatch, *Sitta carolinensis*. Generally observed through winter and less frequently in summer.

Red-breasted Nuthatch, *Sitta canadensis*. Summit, N. J., March 20 (*Holmes*), Bristol, March 13 (*Keim*), Pottstown, May 6, Fairmount Park, Phila., May 10 (*Hunt*), Westtown, May 12 (*Linton, Vail*, etc.), Burlington, May 15 (*H. F. Carter*).

Tufted Titmouse, *Bæolophus bicolor*. Resident at Media, Bryn Mawr, Oak Lane, etc.

Black-capped Chickadee, *Parus atricapillus*. Wintered at Pottstown, Perkasie, Bryn Mawr, Oak Lane, usually plentiful at Lansdowne (*A. D. White*) and at Media until April 12 (*Allen*).

Gold-crowned Kinglet, *Regulus satrapa*. Last observed at Swarthmore, April 21 (*Roberts*) and Haverford, April 21 (*Serrill*).

Gnatcatcher, *Polioptila caerulea*. One shot at Frankford, April 19 (*Miller*).

Hermit Thrush, *Hylocichla guttata pallasii*. Cupola, Chester

Co., Pa., January 1 (*Hunt*), Moorestown, N. J., December 25, 1903 (*Evans*), Lansdowne, December 26, 1903 (*Austin*), Downstown, N. J., January 16 (*Fair*).

Robin, *Merula migratoria.* Winter records, Downstown, N. J., February 3 (*Fair*), Swarthmore, January 17 (*Palmer*), Lansdowne, January 27 (*Eaton*), nest with eggs, April 21 (*Palmer*).

Bluebird, *Sialia sialis.* Several wintered at Swarthmore (*Palmer*), Lenape (*Carter*), Perkasie (*Rutter*) and Summit, N. J. (*Holmes*).

City Ornithology

The following birds were observed from the windows of the Friends' Library, overlooking the burial grounds at Sixteenth and Race streets, by Mary S. Allen:

Fish Crow, occasional.

Flicker, a pair on March 26.

Fox Sparrow, March 12 and 18.

Song Sparrow, March 12 (singing), April 28.

White-throated Sparrow, April 25, 27, 28, 29, and May 6 (singing).

Chewink, April 25 and May 5.

Scarlet Tanager, May 13 (reported).

Ovenbird, April 30 and May 6.

Maryland Yellow-throat, May 19, 20 and 21, at least two pairs.

Catbird, May 14.

Brown Thrasher, April 27 and May 9.

Creeper or Nuthatch, April 27.

Hermit Thrush, April 20 and 29.

Robin, first seen March 23, a pair remained all season.

Brown Creepers were frequently seen in Logan Square during the fall migration, and Dr. Trotter heard a Warbling Vireo in full song at Eleventh and Spruce streets, in May.

Abstract of the Proceedings of the Delaware Valley Ornithological Club for 1904

January 7, 1904. Annual Meeting. Twenty-seven members present. The resignations of Messrs. John H. Reese and William R. Reinick were accepted with regret.

Mr. Clark J. Peck was elected an Associate member.

The following officers were elected for the ensuing year:

President—Spencer Trotter, M. D.

Vice-President—William A. Shryock.

Secretary—William B. Evans.

Treasurer—Stewardson Brown.

The paper of the evening was by Wm. B. Evans, entitled, "Among Strange Voices in England," in which the speaker's impressions of the Chaffinch, Swift, Rook and Skylark were dwelt upon at length.

Mr. Baily reported a Towhee (*Pipilo erythrophthalmus*), Mocking-bird (*Mimus polyglottos*) and Hermit Thrush (*Hylocichla guttata pallasii*) at Wildwood, N. J., December 27, 1903. Thirty-eight species in all were observed during the day.

Hermit Thurshes were also reported wintering at several other localities.

A resolution protesting against changing the New Jersey law to permit the shooting of Robins was adopted.

January 21, 1904. Seventeen members present.

Messrs. LaRue K. Holmes and J. J. Wisler were elected Corresponding members.

Mr. DeHaven entertained the club with an account of a visit to the Yellowstone Park during the past summer, speaking particularly of the birds and mammals.

Bluebirds (*Sialia sialis*) were observed on January 9, 16 and 17, and a Robin, at Olney, on January 21.

The death of Josiah Hoopes, a Corresponding member, was announced. (See CASSINIA, 1903, p. 82.)

February 4, 1904. Fifteen members present.

A discussion was held upon the Shrikes of the neighborhood of Philadelphia, and a number of skins were exhibited. All of the "Loggerhead" Shrikes appeared to belong to the recently proposed race *Lanius ludovicianus migrans* W. Palmer, and only fall captures were on record.

A specimen of Red-tailed Hawk (*Buteo lineatus*) from North Carolina was exhibited by Mr. DeHaven, which seemed to present an unusual amount of red in its coloration.

February 18, 1904. Twenty members present.

Mr. Morris read extracts from his journal covering a five-day trip to Cape Charles, Va., January 31–February 4. Forty-two species of birds were observed, among which were Red-winged Blackbirds (*Agelaius phoeniceus*), Grackles (*Quiscalus quiscula*), Robins (*Merula migratoria*), Myrtle Warblers (*Dendroica coronata*) and Hermit Thrushes (*Hylocichla guttata pallasii*). Of the last he estimated that at least one hundred and fifty were seen. Titlarks (*Anthus pensilvanicus*) were unusually abundant and it seemed that the Ipswich Sparrow (*Passerculus princeps*) was actually more plentiful on Skidmore's Island than the Song Sparrow.

March 3, 1904. Eighteen members present.

Some Delaware Notes contributed by Mr. C. J. Pennock were read by Mr. Stone in the author's absence. (See p. 42). The most interesting records were Brown-headed Nuthatch (*Sitta pusilla*) and a flock of Snow Buntings (*Passerina nivalis*) at Lewes, February 5. Mr. Stone exhibited the original manuscript of John K. Townsend's "Narrative" and a number of letters received from Dr. Mahlon Kirk to be presented to the Academy of Natural Sciences.

March 17, 1904. Eighteen members present.

The resignation of Mr. Robert T. Moore was accepted with regret.

Mr. Baily gave a resumé of his observations on the shore birds of the Cape May county coast, based upon numerous trips made during the past twenty years.

April 7, 1904. Nineteen members present.

Dr. Hughes described the nesting of various Water-birds and Grouse in South Dakota. The increase in the numbers of the latter bird he attributed to the disappearance of the Coyotes and the development of the grain industry.

Mr. Stone commented upon a collection of birds from California recently purchased by the Academy.

Mr. Emlen described a trip down the Egg Harbor river, N. J., in March and spoke of the birds observed.

April 21, 1904. Twenty-seven members present.

Mr. Samuel C. Palmer was elected to Active membership, and Messrs. James L. Whitaker and Frank A. Eaton to Associate membership.

The death of Edwin Sheppard, for many years an associate member, was announced.

Mr. J. A. G. Rehn entertained the club with an account of a trip to the vicinity of Thomasville, Georgia, during March and early April, illustrating his remarks with specimens which he had secured.

The Mocking-bird was the only novel species to a northern visitor among those found commonly about the open ground, but in the pine woods were to be found Brown-headed Nuthatches (*Sitta pusilla*), Bachman's and Pine-woods Sparrows (*Peucæa æstivalis* and *æ. bachmani*), together with Pine Warblers (*Dendroica vigorsii*), Myrtle Warblers (*D. coronata*) and Hermit Thrushes (*Hylocichla guttata pallasii*). The Yellow-throated Warbler (*D. dominica*) was seen March 15. Along the "branches" and in swamps there were noted the Parula Warbler (*Compsothlypis americana*), Prothonotary Warbler (*Protonotaria citrea*) and Hooded Warbler (*Wilsonia mitrata*).

A single specimen of Bachman's Warbler (*Helminthophila bachmani*) was obtained just over the Florida line. (See *Auk*, 1905, p. 85).

A letter from Mr. Wm. D. Carpenter was read describing a

nest and four eggs of the Woodcock (*Philohela minor*), found near Paoli, Pa., April 17, 1904.

Mr. De Haven stated that he had observed Ducks drinking drops of rain water which collected on their backs as they sat on the salt water, and commented on the flight of Hawks through a gap in the hills near Paterson, N. J., which seems to occur annually between March 10 and 25. This year one hundred and twenty-six birds were shot by local gunners in one day.

May 5, 1904. Twenty-two members present.

Mr. Hunt read a paper describing the discovery of Henslow's Bunting (*Ammodramus henslowii*), at Cupola, Chester Co., Pa. On April 24, six pairs were observed in a high upland field overgrown with grass and weeds; on the 26th the spot was visited, and a specimen secured for identification. It was presumed that the birds would nest in the locality.

Mr. Coggins read a paper entitled, "Confessions of an Egg Collector," discussing the value to science of the work of the man who collects egg-shells. The rather limited compass of scientific truths which the study of egg-shells is able to contribute was reviewed. In the conclusions of the speaker and the discussion which followed, it was considered that the results obtained hardly justify the practice of indiscriminate collecting, but a stimulus to bird-study is produced which *might* otherwise never have been aroused. The most notable egg-collector present admitted frankly that, so far as he was concerned, he collected for the amusement and pleasure that it gave him.

Mr. Baily described the photographing of the Woodcock's nest reported at the previous meeting. The bird showed remarkable tameness and allowed a closer and closer approach until finally Mr. Baily was able to stroke her back with his hand.

Mr. Stone described the flight song of the Woodcock as heard by Mr. H. W. Fowler and himself at Speedwell, N. J., April 30.

May 19, 1904. Thirty-two members present.

Mr. Richard C. McMurtrie was elected an Associate member.

Mr. Pennock spoke of some recent observations in Delaware;

he was inclined to think that the Mocking-bird (*Mimus polyglottos*) was on the increase in the upper part of the State. A general discussion on the progress of migration followed.

Mr. Hunt described the vocal performance of a female Red-winged Blackbird (*Agelaius phoeniceus*), which sang in captivity.

October 6, 1904. Thirty-seven members present.

Messrs. Bruce P. Tyler and Kenneth Howie were elected Associate members.

The death of Walter D. Bush, a Corresponding member, was announced.

Mr. S. N. Rhoads made a communication on "Song Periods of Some of Our Common Birds." His observations began on August 11, 1904, in the neighborhood of Audubon, N. J., and of twelve common species but one, the White-eyed Vireo (*Vireo noveboraeensis*), remained in song to September 11. The House Wren (*Troglodytes aëdon*) was the first to stop singing, not being heard after August 14. He suggested a generalization, that the finest singers have the shortest song periods, but noted some exceptions. Mr. Rhoads proposes to give the subject further careful study and solicited eoöperation.

Mr. Hannum described the destruction of young Robins (*Merula migratoria*) and Blackbirds (*Quiscalus quiscula*) at Concordville, Pa., during the storm of last month and similar observations were made by Mr. Peck at Overbrook, Pa.

October 20, 1904. Twenty-one members present.

Mr. W. E. Hannum, who has been absent for over a year in Colorado, was re-elected to Active membership, and Messrs. Paul L. Lorrilliere, Richard C. Harlow and Stirling W. Cole were elected Associate members.

A paper on the Long-billed Marsh Wren (*Telmatodytes palustris*), "That Feathered Midget of our Tide-water Swamps," was read by Mr. Hunt (see p. 14).

Mr. Stone stated that two races of this bird had been recently distinguished; one inhabiting the Atlantic coast marshes, and the other the fresh marshes of the Mississippi valley. The question had been raised whether the birds found wintering at Cape May were not the latter.

Mr. S. N. Rhoads exhibited a volume of the manuscript diary kept by Titian Peale on his trip to Florida in 1824; and Mr. Pennock a copy of the rare edition of Guthrie's Geography containing the Ord Zoölogy which he had purchased at an old book store in Wilmington, Del.

November 3, 1904. Twenty-six members present.

The death of Dr. Samuel W. Woodhouse, Honorary member of the club, on October 23, 1904, was announced, and the following resolution was adopted:

The Delaware Valley Ornithological Club has heard with deep regret of the death of Dr. Samuel W. Woodhouse. The last of a generation of ornithologists, whose period of activity closed long before the birth of our Club, Dr. Woodhouse had always shown the keenest interest in our work, and in our company renewed his familiarity with the study, to which he had been devoted years before. His kindly disposition and enthusiastic love of birds endeared him to us all, and in his death we recognize the loss not only of an honored member but of a true friend.

Dr. Hughes made the communication of the evening, "A Trip through Idaho," treating of his experiences near Oriphaeno, Moscow Co., Idaho, during September of the present year. Ornithology was not the primary object of the trip, and no specimens were collected, but forty-eight species were recorded, some of the more interesting being the White-headed Woodpecker (*Xenopicus albolarvatus*), Pinon Jay (*Cyanocephalus cyanocephalus*) and Franklin's Grouse (*Canachites franklinii*).

Mr. Carter described the efforts of a Flicker (*Colaptes auratus luteus*) to escape from the attack of a Duck Hawk (*Falco peregrinus anatum*), at Anglesea, N. J., October 2. The bird avoided his pursuer by dropping into shallow water, again by turning suddenly in the air, and finally sought shelter between two sand dunes.

November 17, 1904. Twenty-six members present.

Mr. Hannum addressed the Club on "Impressions of Colorado Birds," covering his residence at Buena Vista, Col., 1903–4.

The country, climate and effect of altitude on distribution and migration were spoken of and sketches were given of the habits of several noteworthy western birds including the Long-crested Jay, Rocky Mountain Jay, Clark's Nutcracker and Water Ouzel.

A sketch of the late Dr. Woodhouse was read by Mr. Stone (see p. 1).

December 1, 1904. Twenty-one members present.

Mr. Carter gave an account of his observations upon the birds of Pocono Lake, Monroe Co., Pa. (see p. 29).

Messrs. Baily and Rhoads made additional remarks on the birds of the Pocono region.

Mr. Stone remarked upon some of the features of the spring migration as shown by a comparison of the Club's schedules (see p. 46). He also called attention to Prof. W. W. Cooke's report on the migration of Warblers, illustrating by charts the different winter habitats and migration routes of species which have approximately identical breeding ranges.

December 15, 1904. Nineteen members present.

Mr. Keim read a paper on the "Summer Birds of Port Allegheny, McKean Co., Pa." (see p. 36).

Mr. Spaeth spoke of birds observed in December, at Cape May Point, N. J., among which were Grackles (*Quiscalus quiscula*), Robins (*Merula migratoria*), Bluebirds (*Sialia sialis*) and Tree Swallows (*Iridoprocne bicolor*).

Mr. Brown read a communication from Mr. Frederick W. Stack, Plainfield, N. J., relative to a Crow roost, in which he said: "I wish to take exception to the statement on page 11 of the last CASSINIA, relative to the Ash swamps being occupied as a Crow roost at the present time. This is not so, and to my personal knowledge has not been so for at least the greater part of the past decade. Three years ago a roost near Netherwood Heights (Plainfield), was forsaken and the evening flights directed slightly southward and at a considerable distance beyond, toward Picton station where a large roost was discovered by Mr. W. D. W. Miller of this city and is known as the Picton roost."

Bird Club Notes

The early portraits of Dr. Woodhouse which appear in this number are reproduced from photographs taken from daguerreotypes kindly loaned for the purpose by Dr. Samuel W. Woodhouse, Jr., to whom we are also indebted for the privilege of consulting the manuscript journals kept by his father while on his several expeditions.

* * *

Sixteen meetings of the Club were held during 1904, with an average attendance of twenty-three. Fifty-three members were present at one or more meetings.

The meeting of October 6—the 250th—was attended by thirty-seven members, the largest number ever recorded.

* * *

Early in the present year Mr. Charles J. Pennock was appointed Ornithologist to the Delaware State Board of Agriculture, and through his efforts we may soon hope to have reliable accounts of the birds of this ornithologically neglected state.

* * *

As is well known, ornithology is often the first field of activity of scientists who are later diverted to other lines of research. The D. V. O. C. has two notable instances in Henry W. Fowler and James A. G. Rehn, who are gaining prominence respectively for their work on Fishes and Orthoptera. Mr. Fowler has already published thirty-three papers with descriptions of eighty-eight new species of fishes, many illustrated by plates of much merit from his own brush. Mr. Rehn has published thirty-seven contributions to our knowledge of Grasshoppers and their kin, and upwards of 130 new species are credited to him.

In the field of literature, a noteworthy contribution from a member of the D. V. O. C. is "A Selborne Pilgrimage," in the

Atlantic Monthly for August, by Cornelius Weygandt, while Herbert L. Coggins has published in *Youth*, of which he is editor, a series of Animal and Bird Fables well worth reading.

The following ornithological papers have been published during the year from the pens of members of the D. V. O. C.:

Austin, J. Harold. Christmas Bird Census. *Bird Lore*, 1904, p. 14.

Baily, Wm. L. Christmas Bird Census. *Bird Lore*, 1904, p. 13.

Henslow's Sparrow in Monroe Co., Pa. *Auk*, 1904, p. 486.

Evans, Wm. B. Christmas Bird Census. *Bird Lore*, 1904, p. 13. (See also p. 203.)

Hunt, Chreswell J. Christmas Bird Census. *Bird Lore*, 1904, p. 13.

New Year Bird Census. *Wilson Bulletin*, 1904, p. 17.

July Fourth Censo-Horizon. *Wilson Bulletin*, 1904, p. 78.

All Day with the Birds. *Wilson Bulletin*, 1904, p. 39.

How an Abnormal Growth of Bill was Caused. *Auk*, 1904, p. 384.

Henslow's Sparrow in Chester Co., Pa. *Auk*, 1904, p. 386.

Gold Finch and Tree Sparrows—Difference in Feeding. *Bird Lore*, 1904, p. 133.

The Marsh Wrens' Midnight Song. *Wilson Bulletin*, 1904, p. 13.

Some Barn Swallow Nests. *Wilson Butletin*, 1904, p. 83.

Jackson, Thos. H. Christmas Bird Census. *Bird Lore*, 1904, p. 13.

Hales, Henry. An Unusual Nest of the Cliff Swallow. *Bird Lore*, 1904, p. 67.

Cowbird and White-eyed Vireo. *Bird Lore*, 1904, p. 99.

Mockingbirds in New Jersey. *Bird Lore*, 1904, p. 134.

Jacobs, J. Warren. Haunts of the Golden-winged Warbler. 1904. Published by the author.

Keim, Thomas D. July Fourth Censo-Horizon. *Wilson Bulletin*, 1904, p. 78.

MILLER, W. D. W. Report on Bird Protection in New Jersey. *Auk*, 1904, p. 179.

Breeding of the Dickcissel in New Jersey. *Auk*, 1904, p. 487.

PALMER, SAMUEL C. Taming a Red-eyed Vireo. *Bird Lore*, 1904, p. 133.

PENNOCK, CHARLES J. Some of Our Useful Birds. Bull. 5, Delaware Board of Agriculture, 1904.

Delaware Bird Notes. *Auk*, 1904, p. 286.

STONE, WITMER. A Collection of Birds and Mammals from Mt. Sanhedrin, Cal. *Proc. Acad. Nat. Sci., Phila.*, 1904, p. 576.

Henslow's Sparrow at Bethlehem, Pa.—A Correction. *Auk*, 1904, p. 386.

'Plumage,' 'Ornithology,' and other Ornithological Articles in the *Encyclopedia Americana*, 1904.

STREET, J. FLETCHER. Christmas Bird Census. *Bird Lore*, 1904, p. 12.

SURFACE, H. A. Various Articles on Economic Ornithology in Bulletins of State Zoölogist.

TROTTER, SPENCER. Some Nova Scotia Birds. *Auk*, 1904, p. 55.

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The Spencer F. Baird Ornithological Club still maintains an active organization. The officers for 1905 are, President, Mrs. Edward Robins; Secretary, Mrs. Spencer Trotter and Treasurer, Mrs. Wm. Channing Russel.

* * *

Edwin Sheppard, an Associate member of the D. V. O. C., died in Philadelphia on April 7, 1904, at an advanced age.

Mr. Sheppard was an artist by profession, coming to this city when quite a young man to pursue his studies. His deep interest in birds brought him to the Academy of Natural Sciences and turned his attention to the illustrating of scientific works. For years he worked at the Academy, being absent only during the Civil War, when he returned to his native city, Richmond, Va., and enlisted in the engineer corps of the Confederate Army. He then traveled into Louisiana and Texas,

and has in conversation described the Ivory-billed Woodpeckers and other interesting birds that he saw at this time.

Mr. Sheppard served on the Ornithological committee of the Academy from 1872 to 1875. He was deeply interested in everything relating to birds and joined the Club the year after its organization. While a frequent attendant at the earlier meetings, failing health prevented him from taking any active part in its work of late years.

Some of the best known of Mr. Sheppard's ornithological illustrations are to be found in Baird, Brewer and Ridgway's "History of North American Birds," Trumbull's "Common Names of Game Birds," and Elliot's volumes on "Shore Birds," "Ducks and Geese," etc. Dr. Coues once said of him: "he has drawn more and better illustrations of North American birds than any artist now living," which was true at the time he wrote. Mr. Sheppard was well acquainted with Dr. Thomas B. Wilson, John Cassin and other ornithologists of their day and has described to me with much enthusiasm a meeting he once had with John W. Audubon. W. S.

* * *

Walter D. Bush, a Corresponding member of the Club, died at his home in Wilmington, Delaware, on August 11, 1904. Mr. Bush was elected in 1898, and though he was able to attend but few of our meetings he was ever ready to render assistance to those interested in the ornithology of his native state. Indeed, until quite recently he seems to have been the only one at all familiar with the bird life of Delaware, and had it not been for his modesty and the engrossing cares of an active business life his knowledge would have gained him a much more prominent position in the ornithological world.

He was active in securing the passage of the recent law for the protection of birds in Delaware and as Vice-President and President of the Delaware Natural History Society, did much to advance interest in scientific pursuits. As a citizen he was prominent in all public enterprises in Wilmington and was widely known and respected.

Mr. Bush was born in Wilmington, August 30, 1851, the son of George W. Bush. He early entered the coal and freight

business, established by his father, and largely through his energy it grew to its present proportions. He was President of the Bush Company at the time of his death and also of the Delaware Real Estate Co., while he was a director of many other organizations. He married Rebecca Gibbons Tatnall, who with seven children survive him. W. S.

* * *

Harry Garrett died at his home in West Chester, Pa., June 25, 1904, in his sixty-sixth year.

He was the son of the late Davis and Elizabeth Garrett who resided in Willistown township, Chester Co., where Harry was born and passed the greater part of his life. From his parents he inherited a fondness for nature study and his spare hours were devoted to his bird neighbors. He was of a modest, unassuming nature. He did not belong to any of our bird societies, nor did his name often appear in print, yet there are very few who had a more accurate knowledge of our birds, their habits and haunts, than Harry Garrett.

A taxidermist of more than ordinary skill, he amassed a very fine mounted collection of local birds, which went to Swarthmore college many years since. About fourteen years ago he moved to West Chester, where he still maintained his interest in birds, though it was divided with mineralogy, in which field he was an enthusiast. Many specimens collected and prepared by Garrett are to be seen in the Josiah Hoopes collection, now in the Academy of Natural Sciences of Philadelphia. T. H. J.

* * *

At the twenty-second Congress of the American Ornithologists Union, Mr. J. Warren Jacobs was elected a Member and Mr. Clark J. Peck an Associate.

OFFICERS AND MEMBERS

OF THE

Delaware Valley Ornithological Club.

1905.

SPENCER TROTTER, M. D., *President.*
WILLIAM A. SHRYOCK, *Vice-President.*
WILLIAM B. EVANS, *Secretary*, 56 N. Front St., Phila.
STEWARDSON BROWN, *Treasurer*, 20 E. Penn St., Germantown.

ACTIVE MEMBERS.

WILLIAM L. BAILY, Ardmore, Pa . . . . . Founder.
STEWARDSON BROWN, 20 E. Penn St., Germantown, Phila. *1891
HERBERT L. COGGINS, 5025 McKean Ave., Germantown, Phila. 1897
I. NORRIS DE HAVEN, Ardmore, Pa. 1891
ARTHUR C. EMLEN, Awbury, Germantown, Pa. 1897
WILLIAM B. EVANS, Moorestown, N. J. 1898
HENRY W. FOWLER, Holmesburg, Phila. 1894
WILLIAM E. HANNUM, 508 Broadway, Camden, N. J. 1901
WILLIAM E. HUGHES, M. D., 3945 Chestnut St., W. Phila. 1891
CHRESWELL J. HUNT, 1306 N. Fifty-third St., W. Phila. 1902
GEORGE SPENCER MORRIS, Olney, Phila. . . . . Founder.
SAMUEL C. PALMER, Swarthmore, Pa. 1899
CHARLES J. PENNOCK, Kennett Square, Pa. 1895
JAMES A. G. REHN, 1918 N. Twenty-first St., Phila. 1899
SAMUEL N. RHOADS, Audubon, N. J. . . . . Founder.

* Date indicates year of election to Club.

WILLIAM A. SHAYOCK, 21 N. Seventh St., Phila. 1891
WITMER STONE, Academy Nat. Sciences, Phila. . . . . Founder.
SPENCER TROTTER, M. D., Swarthmore College, Delaware Co., Pa. . Founder.
SAMUEL WRIGHT, Conshohocken, Pa. 1892

ASSOCIATE MEMBERS.

J. HAROLD AUSTIN, Lansdowne, Delaware Co., Pa. 1903
CHARLES W. BUVINGER, 911 N. Sixteenth St., Phila. 1900
WILLIAM D. CARPENTER, 228 S. Twenty-first St., Phila. 1899
JOHN D. CARTER, Lansdowne, Delaware Co., Pa. 1900
JOHN E. CHAMBERLIN, 45 N. Seventh St., Phila. 1904
STIRLING W. COLE, 116 N. Sixth St., Camden, N. J. 1904
FRANCIS R. COPE, JR., Awbury, Germantown, Phila. 1895
WILLIAM J. CRESSON, Swarthmore, Delaware Co., Pa. 1899
FRANK A. EATON, Lansdowne, Pa. 1904
ERNEST M. EVANS, Awbury, Germantown, Phila. 1899
A. P. FELLOWS, 4006 Chestnut St., W. Phila. 1894
GEORGE FORSYTHE, West Chester (Route 4), Chester Co., Pa. 1891
SAMUEL M. FREEMAN, 13 E. Penn St., Germantown, Phila. 1896
ALFRED MORTON GITHENS, 1337 Pine St., Phila. 1895
BARTRAM W. GRIFFITHS, 4024 Green St., W. Phila. 1902
REV. JOHN H. HACKENBERG, 3211 Columbia Ave., Phila. 1903
SAMUEL S. HAINES, M. D., Mill St. & Central Ave., Moorestown, N. J. . . 1901
RICHARD C. HARLOW, Oak Lane, Phila. 1904
KENNETH HOWIE, 48 Sedgewick Ave., Germantown, Phila. 1904
WILLIAM W. JUSTICE, JR., Clappier St. & Wissahickon Ave., Germantown, Phila. 1903
THOMAS D. KEIM, 3409 N. Twentieth St., Phila. 1902
RAYMOND KESTER, 1514 Chestnut St., Phila. 1892
NATHAN KITE, Moylan, Delaware Co., Pa. 1898
JOSEPH B. LODGE, 3340 N. Sixteen St., Phila. 1900
PAUL L. LORRILLIERE, Collingdale, Del. Co., Pa. 1904
DAVID MCCADDEN, 4204 Powelton Ave., W. Phila. 1892
RICHARD C. MCMURTRIE, 152 Carpenter St., Germantown, Phila. . . . 1904
F. GUY MYERS, 1110 S. Forty-seventh St., W. Phila. 1896
ELMER ONDERDONK, 4221 Parrish St., W. Phila. 1903
FREDERICK N. OWEN, 1812 Green St., Phila. 1902
CLARK J. PECK, 6728 Leeds St., Phila. 1904
JAMES F. PRENDERGAST, M. D., 3833 Spring Garden St., W. Phila. . . . 1899
J. HARRIS REED, Aldan, Delaware Co., Pa. . . . . Founder.
CHARLES J. RHOADS, Bryn Mawr, Pa. 1890
WILLIAM E. ROBERTS, Box 135, West Chester, Pa. 1901
ANTHONY W. ROBINSON, 409 Chestnut St., Phila. 1898

WILLIAM B. SCREUING, 3024 W. York St., Phila. 1893
C. FEW SEISS, 1338 Spring Garden St., Phila. 1892
EDWARD A. SELLIEZ, 1317 N. Nineteenth St., Phila. 1902
WILLIAM J. SERRILL, Haverford, Pa. 1891
WALTER G. SIBLEY, 6626 McCallum St., Germantown, Phila. 1900
L. I. SMITH, JR., 3908 Chestnut St., W. Phila. 1901
WALTER GORDON SMITH, 5870 Drexel Road, W. Phila. 1898
REYNOLD A. SPAETH, 7300 Boyer St., Mt. Airy, Phila. 1901
JAMES L. STANTON, 5218 Parkside Ave., W. Phila. 1901
JOHN H. STEELE, 301 S. Fortieth St., Phila. 1903
J. FLETCHER STREET, Beverly, N. J. 1903
JOSEPH W. TATUM, 5220 Parkside Ave., W. Phila. 1892
WILLIAM H. TROTTER, Chestnut Hill, Phila. 1899
BRUCE P. TYLER, Knowlton, Delaware Co., Pa. 1904
CHARLES A. VOELKER, Aldan, Delaware Co., Pa. . . . . Founder.
CHARLES S. WELLES, Elwyn, Delaware Co., Pa. 1900
CORNELIUS WEYGANDT, Wissahickon Ave., below Frank St., Germantown, Phila. 1891
ALBERT L. WHITAKER, Cedar Grove, Frankford, Phila. 1896
JAMES L. WHITAKER, Cedar Grove, Frankford, Phila. 1904
WALTER R. WHITE, Lansdowne, Delaware Co., Pa. 1903
EDWARD W. WOOLMAN, 44 N. Thirty-eighth St., W. Phila. 1902

CORRESPONDING MEMBERS.

CHARLES H. BAKER, Grassmere, Orange Co., Fla. 1900
THOMAS J. BEANS, Moorestown, N. J. 1895
HERMAN BEHR, Jennings, Md. 1897
OTTO BERR, Lopez, Sullivan Co., Pa. 1897
W. H. BULLER, Marietta, Lancaster Co., Pa. 1895
LIEUT. FRANK B. EASTMAN, U. S. A., Presidio, San Francisco, Cal. . . . 1898
MARCUS S. FARR, Princeton, N. J. 1901
HARRY L. GRAHAM, Redlands, Cal. 1897
ALLEN H. GROSH, York, York Co., Pa. 1900
HENRY HALES, Ridgewood, N. J. 1895
H. WALKER HAND, 1002 Washington St., Cape May, N. J. 1900
LARUE K. HOLMES, Pine Grove Ave., Summit, N. J. 1904
THOMAS H. JACKSON, West Chester, Pa. 1895
J. WARREN JACOBS, Waynesburg, Greene Co., Pa. 1895
AUGUST KOCH, Williamsport, Pa. 1895
SAMUEL B. LADD, West Chester, Pa. 1895
WALDRON D. W. MILLER, Plainfield, N. J. 1900
HOWARD Y. PENNELL, M. D., Downingtown, Pa. 1894
A. H. PHILLIPS, Princeton, N. J. 1895
M. W. RAUB, M. D., Lancaster, Pa. 1895

H. Justin Roddy, State Normal School, Millersville, Lanc. Co., Pa. . . . 1895
Frederick Söaensen, Chalmersgarten, Götbenburg, Sweden 1900
Faederic W. Stack, Plainfield, N. J. 1905
Hugh E. Stone, Coatesville, Pa. 1895
H. A. Surface, Harrisburg, Pa. 1900
C. F. Sylvester, Princeton, N. J. 1901
W. E. Clyde Todd, Carnegie Museum, Pittsburg, Pa. 1895
Henry Warrington, San Francisco, Cal. 1896
Asa P. Way, Bridgeton, N. J. 1902
William H. Werner, Atlantic City, N. J. 1901
William L. Whitaker, Mitchell, Ind. 1893
J. Jay Wisler, Columbia, Pa. 1904
Robert T. Young, Cripple Creek, Colo. 1892

DECEASED MEMBERS.

	Died.
John Farnum Brown, Active member	May 13, 1894
Walter D. Bush, Corresponding member	August 11, 1904
John W. Detwillea, M. D., Corresponding member	September 26, 1898
Josiah Hoopes, Corresponding member	January 16, 1904
Gilbert H. Moore, Associate member	May 28, 1899
William Patterson, Corresponding member	August 27, 1900
Edwin Sheppard, Associate member	April 7, 1904
William W. Smith, Associate member	July 3, 1892
Samuel W. Woodhouse, M. D., Honorary member	October 23, 1904

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